



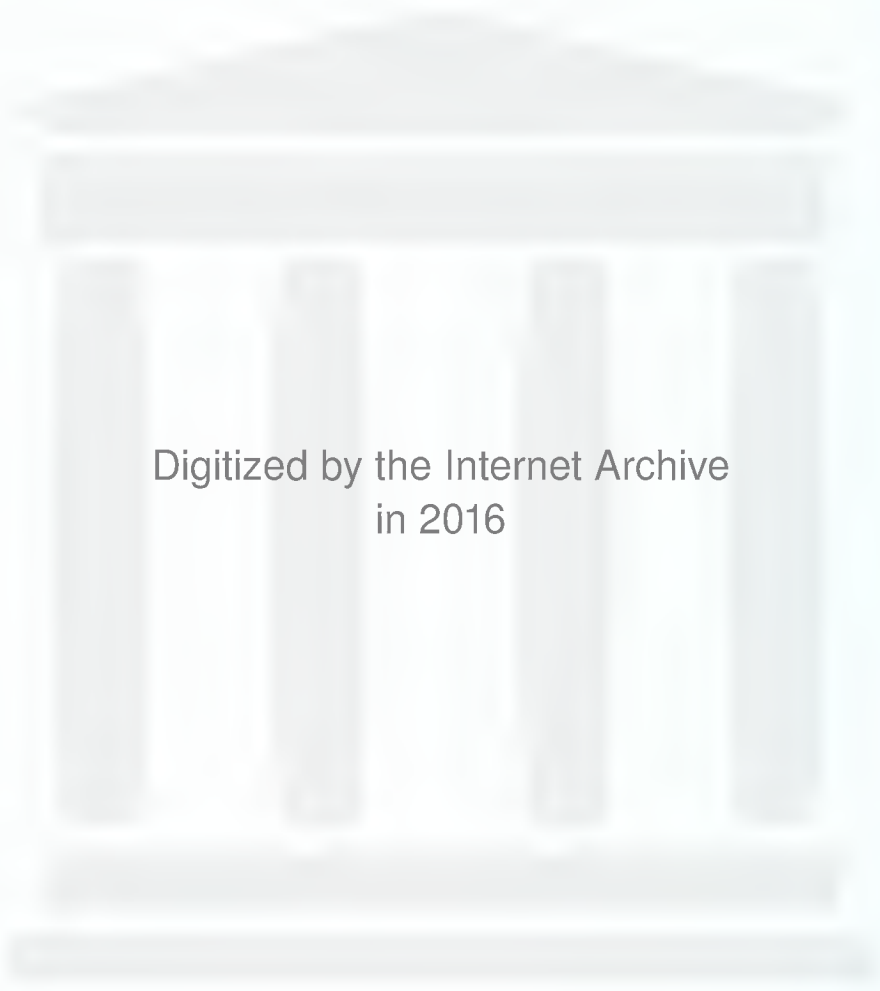
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IN THIS ISSUE

FEATURES

	Pag
The Winter of 1935-36	
By W. W. Britton	
Ghosts of the Greenswamps	
By Byron W. Dalrymple	
The Luck of the '94	1
By Ken Calnon	
The Pymatuning Story	1
By Nick Sisley	
Second Chance Trophy	2
By James D. Hockenberry	
Where Have All the Insects Gone?	2
By Helen Ross Russell	

NEWS

Field Notes	3
Conservation News	3
Hunter Safety Education	4
By John C. Behel	
Financial Report for the Fiscal Year	4
By John M. Smith	

COLUMNS

See Pennsylvania First (Camping)	4
By Les Rountree	
Why Shoot in Winter? (Archery)	5
By Keith C. Schuyler	
The Year Ahead (Guns)	5
By Don Lewis	

COVER PAINTING BY NED SMITH

His scientific name is *Lepus americanus*, but most people call him snowshoe hare, snowshoe rabbit, or simply "snow shoe." Anyone who's examined those oversize rear feet knows why. Compared to a cottontail, this wilderness rabbit is a giant, for he might weigh five pounds. In addition, he can move as fast as seems necessary, and his winter coat of white lets him blend perfectly into the snow-covered tangles that normally make up his range. Here, he makes fine sport for the hunter willing to wade the snowdrifts while a pair of hounds keeps the woods alive with their music. If you have never tried snowshoe hunting yet, it's time you gave it a whirl.

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Today Was Tomorrow Yesterday

THE ABOVE PHRASE popped into my mind in deer camp recently. It was the first time in years I'd thought of it. I heard it first as a kid, a long time ago, and we used to repeat it as a sort of nonsense saying. The only thing is, as with many such remarks, it isn't complete nonsense. Today *was* tomorrow yesterday. And tomorrow will be today shortly, and yesterday is gone forever, along with all the countless previous yesterdays. This is the sort of thing pseudo-philosophers like to analyze. It's related, probably, to the question of whether a "present" actually exists in time, or whether it's simply a sort of razor edge between the past and the future. Will I be the same person when I finish writing this sentence that I was when I started . . . will you be the same reader?

Such questions can be intriguing at two o'clock on a winter morning, when the hickory logs are red embers in the fireplace and you're drowsy after a late sandwich and feeling warm and protected from the windblown snow pellets rattling off the windowpanes. But they've lost their appeal a few hours later when the alarm goes off and it's time to crawl out of the sack and face another day of producing. Just planting your bare feet on that ice-cold floor is enough to convince anyone that he's existing in the *here* and the *now*, that the *present* is all he's really sure of. Which means that if he's going to do anything at all worthwhile in this world, today's the day to get with it. Yesterday is, at best, a memory; tomorrow—who knows if he has a tomorrow? Right now, cold feet and all, is all there is.

And what has all of this to do with a GAME NEWS editorial? Well, I'm not sure that the stuff I write for this page ever qualifies as a true editorial. Usually, I just try to string some words together about a subject that interests me, hoping it will do the same for you. (Maybe we should change the name on the page—something I've considered doing.) I sat down here with the intention of committing myself to a resolution for the New Year, this being the January issue and all. And that got me thinking about work, per se, and what's good and bad about it, and then some consideration of today's attitudes on that subject naturally followed. We seem to be in the midst of a something-for-nothing period, a time when many of us believe that anything we want will just appear out of the blue if we wait long enough. (It'll come tomorrow, that is.) Only trouble is, as pointed out earlier, today was tomorrow yesterday, and if nothin' happened by itself then, why should it in the future? Seems like if a guy really wants something, he's gotta get his bare feet out on those cold floorboards and produce . . . right now. And that does sound enough like preaching that maybe this will qualify as an editorial after all. But to wind it up, I'm going to simply give the same resolution as last year and promise to try to make 1970's issues of GAME NEWS better than 1969's . . . on the assumption that everyone's primary responsibility is doing the best he can at whatever he does. I hope we can please you. If not, let us know. It's only another twelve-month till 1971, when it will be time to give it another whirl.—Bob Bell



CHUCK
PIPPER

The Winter of 1935-36

By W. W. Britton

HOW ANY WILD game birds or animals survived the 1935-36 winter would be exceedingly difficult to explain. It was January 19, 1936, that it began to snow and blow the worst. From that date forward it snowed almost every day for over a month. Snowdrifts ranged from six to 18 feet in depth. Many rural roads remained snowbound for weeks. This made traveling to outlying areas impossible. Main highways such as the Lincoln Highway and Route 11 kept the highway department in Franklin County busy. They did not have sufficient machinery or manpower to do much more.

Near Richmond Furnace a wild turkey tom and a hen had frozen on their roost. I don't recall who found them, but they were delivered to me. On examining the contents of their crops we found a bit of green grass they had eaten along some spring water, a few small pieces of grit and many sumac seeds.

At the limekilns west of Upper Strasburg I located a covey of quail that had taken up winter quarters in a dense growth of honeysuckle vines. These I felt certain would survive the winter, but I was wrong. Each time I visited the feeder I noticed fewer tracks. Finally, they were all gone.

It was a very frustrating time for Game Protectors, but, fortunately, there are always more good sportsmen in a community than poor ones. A group of the sincere ones mobilized and came to my aid. Game feeding excursions were planned. One Sunday I shall never forget. Many of the participants are no longer alive. We fought our way into Horse Valley with sleds — horse-drawn and hand sleds. One fellow found a sheltered bare spot. In order to get to it he had to walk over a snowbank about eight

feet high. When he had almost reached the spot, the snow gave way and he was no longer visible to us. We finally extricated him and assisted him in getting the snow out of his neck and ears.

When we reached the Conodoguinet Creek we decided to follow it, since it was almost devoid of snow and frozen to a thickness which would support an army tank. The stream also passed through Game Refuge 76 where permanent feeders had been installed by the N.Y.A. boys several years before. Bushels of ear corn were placed on twigs and small saplings the men had pointed with their knives to hold it. The late Paul Etter of Roxbury had been carrying a sack of scratch feed over his shoulder. He found an old baby buggy along the stream. He transferred the sack to the buggy and pushed it the rest of the way. We finished near the town of Roxbury, but had to retrace our steps back to the place of beginning, because the Horse Valley Road was impassable until spring.

Good Samaritans

The group of Good Samaritans was tired and hungry. They had done a magnificent job. They were a happy group. Laughing and joking with each other during the entire trip. It proved once again that when the chips were down, the good sportsmen could be relied upon to help.

Many more incidents of a similar nature took place during the most critical winter I ever experienced while a Game Protector. Many of you will recall what was done in your community by the sportsmen during that dreadful time.

On January 19, 1936, a Sunday, Tom Bell, now retired, stopped in Chambersburg to pick me up and take me with him to the Harrisburg office. We

were summoned there by Seth Gordon who was Executive Director of the Game Commission at that time. It took over four hours to drive from Chambersburg to Harrisburg, a distance of 52 miles. This will give you some idea of the traveling conditions on that memorable Sunday. Three other Game Protectors had received a like call. They were Rollin Heffelfinger, Bob Latimer and the late Ollie Pinkerton. We had been called to Harrisburg so that we might be taught how to recognize a fraudulent bounty claim and how to handle the investigation. Weasel hides had been sent to friends in Pennsylvania by friends or relatives from Montana. The same was true for wildeat hides which had come from as far away as Florida to be probated for bounty. These were the two I recall very vividly. There were many more from our neighboring states. One man sent in 200 weasel hides. When we investigated him, we found 2300 more hidden in his hay mow. He had rented them from a New York fur buying firm for 20 cents apiece, with the understanding he would return them after he had collected the bounty. But the Pennsylvania Game Commission confiscated them and sold them. Our special investigator C. B. Baum was



MANY OBJECTS CAME down in the flood waters. A large strawstack about three-quarters submerged was gliding along. On top of it was a hen.

swamped with work, and for that reason we five were being trained to assist him.

The week we spent in the bounty office really opened our eyes. Harold Plasterer and Harry Van Cleve were our instructors. They taught us how to detect a bad bounty claim. Even today, I marvel at their methods, but having many years behind them in this work, they were masters of their profession. A few bad claims may have got past them, but they were mighty few.

Spent Week Getting Home

Tom Bell spent the next week trying to get to his home in Somerset County. We had little difficulty in getting to my home, but the mountains which the Lincoln Highway traverses had more snow than the lowlands.

On March 20, 1936, my supervisor called me and said, "Be at my home (Shippensburg) at six in the morning. The Susquehanna River at Harrisburg is rising to a dangerous height. They need us. Be in uniform and bring your hip boots. We may be there for the best part of a week."

At 7:30 a.m. the following day we arrived at the Market Street Bridge. We were informed that the city of Harrisburg was under quarantine. The entrance to the bridge was roped off. A foot of water was flowing over the bridge. After advising the guard we had been sent for, he told us we would travel over the bridge at our own risk. We agreed to do that. He removed the barrier and we drove onto the bridge. We felt sure it was safe, but still it gave us a funny feeling to be out there like that.

Snail's Pace

While we were crossing at a snail's pace we noted many objects coming down in the flood waters. A large strawstack about three-quarters submerged was gliding along. On top of it was a chicken hen. Not far from the stack was a small building which may have been the chicken house. It struck

the bridge with a crash, passed under it and righted itself on the other side. Large trees, logs, lumber and all types of other debris including immense hunks of ice filled the river. When we reached the east side we still had to travel through water to and beyond the Square.

At the Game Commission office we were directed to proceed to a tent which had been set up, as I recall, between Second and Third Streets. This was the headquarters for all flood operations. My first assignment was with another Game Protector to go to the city limits on Route 22 east of Harrisburg, stop all travelers and advise them that the city was under quarantine. Persons could leave the city, but no one could enter. After telling many persons how they could bypass the city to reach their destinations, a car with an army colonel was stopped. He was in uniform and his rank was soon noted. We advised him of the quarantine and told him no one could enter the city. He smiled and said, "I am Colonel Nicholas Biddle, President of the Pennsylvania Game Commission. I have come to help." Neither of us had ever seen Colonel Biddle before and we both felt we had pulled the boner of the year. But to the contrary. A short time after our duties were completed, Colonel Biddle had a nice letter sent out to all Game Commission personnel telling them how proud he was of the Game Protectors who had served in this emergency. It made us feel mighty good, I can tell you that.

Knee Deep in Street

Our next assignment was to patrol a city block between Second and Front Streets to prevent looting from homes which had been temporarily vacated. Water still covered Front Street knee deep or a little higher. We apprehended a looter who was leaving a home with valuable clothing and some jewelry. He was taken to emergency headquarters and turned over to the police. Returning to our area



PAUL ETTER of Roxbury had been carrying a sack of scratch feed. He found an old baby buggy along the stream, transferred the sack to the buggy and pushed it the rest of the way.

we found a man who had been hitting the bottle. He was fishing in the cellar of his home. He was soaking wet. We finally persuaded him to give up fishing until the water receded and get some dry clothes on before he caught pneumonia.

The following day the river had started to go down some, but thousands of fish were trapped on Front Street and in the basements of some buildings. We salvaged fish this day until we were weary—fish of all sizes and species. We were not equipped with nets, which made our task more difficult.

The next day we inspected the area. Front Street was covered with mud and debris. Residents were returning to their homes to assess the damages done. The look of despair was on many faces. It was indeed a tragedy. The old Susquehanna had once more shown her fury. But winter's back was broken. Our wild game birds and animals which had survived had a new lease on life. With each new sunrise came promise and hope of better days ahead for them, though how many of them ever survived without food for so long in the sub-zero temperatures we will never know.



Ghosts of the Greenswamps

By Byron W. Dalrymple

"IT REALLY is true," Tom Hennessey said, "that the best things come in the least abundance."

He was sitting on a log in the snow, gloating over a big snowshoe hare he had just bagged a few minutes before. I didn't reply, because I was listening to the dog. I wasn't so sure anything was coming my way in any abundance, least or otherwise. The little hound had coursed the pesky, fluffy-footed white rabbit round and round the tangled patch of mixed evergreen and hardwood cover in the valley for the sixth time by actual count.

The bunny had run behind me once, leaving a beautiful set of prints I discovered after it had passed. It had crossed spang

in front of me on another occasion, in a thicket so dense I hadn't seen it, and found it out only when the dog came barreling and bawling through. By listening I knew that on several trips it had crawled in and out of some jumpile, confusing the dog, while it probably sat and scratched its ear, resting and enjoying the hound's exasperation.

Then suddenly I heard the dog really open up, coming straight at us. There was a small opening dead ahead and this is what I had been watching. Tom, looking toward the dog sound, hissed, "Here it comes!"

I had the gun instantly up and pointed. Zip! The hare never even left a track in that narrow opening. It sailed across in one great leap, going all-out as only a snowshoe can go when it really gets into gear.

"There it goes!" I groaned.

"Here it comes, there it goes," Hennessey mimicked. "But no punctuation—by a shot. Hm-mm."

Exasperation, as in hunting snowshoe rabbits, is actually a form of exquisite torture so delicately honed it translates into a peculiar form of delight. I can think of no winter sport I've loved more, enjoyed more, or fumed over more. The grandest attribute of this big forest hare is that it never holes up. It runs and runs and runs, intermittently thwarting the best dog noses and brains while it gets its wind for the next run. One snowshoe coursing a goodly hunk of hard-to-shoot-in cover has furnished many a hunter a whole afternoon of sport—and no meat!

I've had the fortunate opportunity to hunt this big rabbit in a number of states. I've seen up-cycles when they were so abundant you could not lay a boot track in their winter places of concentration without blotting out one or more tracks. At such times they are quite easy to collect. It is an intriguing law of nature that the more dense a game population, the less wary each individual gets. But when the population is down, snowshoe hunting is tough, and the circles before the hound are long and fast.

This is, indeed, one of the great winter sports for hunters. And Tom was right—the least-abundant thrills are for savoring, for in Pennsylvania the snowshoe hare is not abundant. Even so, more hunters might avail themselves of the opportunity, and once initiated they would be addicts. Most of Pennsylvania's snowshoes are found in the forest portions of the Northeast. In fact, all but a small amount of the hunting is there.

Some of these hares also range in the North-central sector, chiefly in Lycoming, Tioga and Clinton Counties. But it is interesting to note that while upwards of three million cottontails are bagged annually in good years by Pennsylvania hunters, only a few thousand snowshoes are taken. The Game Commission nevertheless regards the species highly, and offers it careful management. This is to my knowledge the only state that has experimented with restocking—not simply put and take release—of snowshoe hares.

Hunting the Hare

Certainly hunting this hare is not much like hunting cottontails. While the cottontail likes brush patches, it is most at home along fencerows, around small farm swales, and agricultural country. Never are cottontails abundant in heavy forest, and in most instances they are not present. The snowshoe hare, conversely, is truly a forest creature. I have seen them in the high, densely forested mountains of the West Coast, and in the same type of cover in Montana, Minnesota, Michigan and Maine. Seldom do they like even to cross an open field. In summer they will spread out over the hills to some extent where poplar or birch grows, but during the winter, when they normally are hunted, they like to congregate in what a friend of mine has always called "green-swamps."

A greenswamp is a low place where varied conifers such as cedar, spruce and tamarack grow, and where the understory cover is brush or small young evergreens of one variety or another, densely tangled. Many such places along stream courses will have a tangle of down timber, plus alders and willows. Burns and logged areas are favorite feeding spots, where young trees sprout. Here the hares, having changed to their white winter coats, will slip easily through the close ground cover, but invariably where there is taller cover over the whole winter warren.

It is interesting that this hare, which is commonly called a "rabbit" even though that is not technically correct, changes its coat in a sequence to its best advantage. The white begins to show on the ears and feet first and progresses upward and backward along the body as the ground becomes white with deeper snow. In spring the change is reversed. Thus the animal is camouflaged as well as it can be at all seasons. Only the tips of the ears and the big eyes are dark. When there is little snow, many snowshoes will

have rusty patches, red-brown hairs intermingled with the white. I have also seen on the West Coast the race of snowshoes that are not "varying hares." There is little or no snow and so they do not change color. Some are not really brown, as Pennsylvania snowshoes are in summer, but gray the year around, and they are even called "gray rabbits."

The change to white can at times be a debacle for the rabbit and a tremendous advantage to the hunter. Well I recall a winter when snow in the white-rabbit country had been deep and then suddenly there came a devastating winter thaw. In several days the ground was totally cleared of snow, but the rabbits could do nothing about it. Nor do they seem to realize that they show up almost like beckoning lights in a dark forest.

Two of us went snowshoe rabbit hunting with 22 rifles. We prowled carefully through the area where we knew a number of the quarry had been. They usually sit very tight when approached, hunched under a protective log or in a low copse of bushes. But no matter how well one was bedded down for the day, a patch of white was bound to show. It was interesting and very unusual hunting and we both came in with a limit.

I have also stalked them with a small rifle in this fashion when there was snow, and that, too, can be high sport of a quite different flavor. Again, if you move very slowly and quietly, the hares will sit tight. I've seen them allow an approach to only a few feet, and if I moved along the rabbit would never twitch a muscle. But at such

times the eye is a giveaway, even more so than the dark ear tips, for rather commonly the ear tips are not really black, but only dark. The eye, however, is dark and *round*. This round, dark spot is incongruous in the crisscross of snow-covered brush and low sweeping conifer branches. It stands out vividly once you learn to look sharp for it. Obviously you must be quite close to spot it. But you can bet that when you are close enough to see it, it will be open. *Bingo!* Another one for the pot!

Top Excitement

Yet the chase will always, I'm sure, be the most exciting method of hunting this animal. Over a number of years of hunting them, I've tried several types of dogs. In snow a cocker is not much good. The ears ball up with snow and the dog becomes too uncomfortable to hunt. A beagle is fine when snow is not too deep. Even if it is fairly deep, a beagle can't go very fast in it and this moves the rabbit slowly. This is an immense advantage, for a snowshoe that just hops along without undue alarm is much easier to put into the game pocket than one on the all-out lam.

However, small dogs often tire quickly in snow. For several winters we tried small nondescript hounds, in size about between a beagle and a foxhound. They worked fine, especially for an all-day or all-afternoon hunt. It is important, however, to break the dog of chasing deer, for often in winter the hare likes the very spot where deer yard up.

You don't *have* to have a dog, to get a chance. One of the most hilarious tricks I know of for bagging these big greenswamp ghosts was one a couple of buddies and I concocted some years ago. Perhaps it has been done elsewhere. It's not only amusing, but darned effective. We'd put two of us on stands in good spots. Then our "hound dog man" would circle around and begin walking through the cover baying like a hound. When he found he'd jumped a hare, he'd stay on the fresh track, just walking along. The hare would move slowly and circle around as nice as you please.

We took home many a limit by this rather ridiculous method. But one winter it got a bit out of hand. We all became pranksters and from there on no one wanted to be the "dog." For those of us on stands would wait until our "hound" was baying lustily some distance away, then we'd leave. Imagine how one feels to discover his partners are long gone, and that he's been baying to





DALRYMPLE HAS TRIED SEVERAL types of dogs for snowshoe hunting, likes beagles fine when the snow is not too deep.

himself for half an hour! In fact, one time a certain friend came out of the woods and found we'd vamoosed, and there was a Game Protector sitting in his car wondering what in blazes was going on. What can one say in such a situation?

Selecting a spot to hunt is easy enough if there is snow, and especially so after a fresh snow. Snowshoe rabbits move almost entirely at night. A snowfall early in the night will leave tracked-up evidence galore to show how many or how few are the animals in the area. However, if there are several choices of hunting location, it does not take an observant snowshoe hunter long to select the ones where he will have the best chances of success.

A large area, for example, can be exceedingly difficult. Not that snowshoes require any vast amount of space in which to live. They are, in fact, creatures of extremely compact range. Some, where forage is abundant, will move hardly more than a hundred yards in any direction all winter long. Much depends on how dense the cover and how abundant the food, but even though winter may broaden the domain of individual snowshoes by requiring them to forage farther, most will live out their entire lives on a "home" plot of no more than a hundred acres.

When started by a dog, each hare will circle as a rule just within its own staked-out bailiwick. That in fact is *why* they circle. The hare does not want to leave home. However, when pushed it will make longer and longer runs. If the hunter doesn't bag it after a few times around, old snowshoes in particular will sometimes really take out over the hills. They will come back, almost without fail, but it means much waiting. Therefore, the smaller the greenswamp or other hunting location, the better, especially if the cover area is isolated by open country all around. The hares will go round and round and somebody is bound to get shots.

The really perfect setups are two different ones I recall from hunts of my own. One winter a friend who had a good dog located a piece of cover about a quarter-mile long that was shaped like an hourglass. Hills went up on either side, but they were almost entirely open. The rabbits, we knew, would only run there in desperation. What they would do, however, was to circle one end of the hourglass where started, and when pushed zip through the narrow waist into the other end. So, we simply turned the dog loose, and we took up our positions some distance apart in the narrow spot. I'd bet every snowshoe in that greenswamp went past us during the afternoon, from each

direction. We managed to pop a few of them on the way, and it was sporty indeed.

The other perfect layout—and there are many places where hunters can locate comparable sites—was as follows. We had discovered a forested valley with open hills alongside that had only a modest block of what could be considered winter snowshoe habitat. It was low, boggy and thick. There were plenty of tracks.

We were certain the rabbits would prefer to stay within this area. And, as if put there just for us, an old logging trail cut right across the middle of the covert.

Now a rabbit is really a naive little critter. And the snowshoe, a species that does not ever think of going into a hole because it is a true hare, has a kind of Achilles heel attached to each of those broad, fluffy, snowshoe-like hind feet. If it is in one part of its domain, and there is an opening that cuts that domain in two, it invariably—underscore that!—will imagine it can find safety, and throw off its pursuer, by crossing to the other side. It will make a couple or three turns around the one half, and then it will cross.

How it crosses the opening—the log trail in this case and preferably in all cases—may differ. Pushed hard and close by a fast dog, it won't even leave a track. A big snowshoe going all out can bound a dozen feet without much strain. But if just “nudged,” the rabbit will hop casually along until it gets to the brush at the edge of the crossing. Then it will sit and look for a second or so. It is at such times an easy shot, but the difficulty is in watching both ways at once. You can have two hunters watching, but they must stand back to back for safety. Shooting at the ones that cross on the run is, to say the least, sporty, even though the practice doesn't usually put much on the table. Therefore, a slow dog is the ticket for this kind of hunt.

Guns and Loads

I think a bit should be said about guns and loads for this game. Some years ago I had an opportunity to do a lot of hunting, with a partner, using 22s. We got so we were pretty fair at shooting the big rabbits on the run. It is tremendous sport. But I finally gave it up. I continued to *stalk* snowshoes, without a dog, using a 22. But I had found that shooting them on the run was distasteful, because I lost a number. This is a large rabbit. It will average close to three pounds and some will weigh at least four. While they will not hole up when unharmed,

wounded snowshoes will crawl into old log jams or any spot that will give protection. And, hitting them where it counts when they are running is just not possible for any average rifleman, except by occasional luck.

So far as shotguns are concerned, I came to believe in fairly large shot for this hunting. Again, this is a rather large rabbit. Shots on good stands are often fairly long. For several seasons a friend and I experimented, one using small shot and one using No. 4. That may sound awfully big. But there is a tremendous amount of brush, too. We changed off on these sizes and the No. 4s were so far out front in instant kills at any range there was no comparison. On close shots, we held fire unless we had clean opportunity for head shots. On long running shots, we just fired away.

First-timers' Problems

First-timers at this sport may be puzzled at first, trying to guess how far ahead of the dog the rabbit is running. As cottontail hunters know, the smaller rabbits are likely when flushed to really give it all they've got. Also, they will run much more in fairly open cover, or in fields. A snowshoe started by a slow dog will make one little burst. But it's likely to stop and wait to be jumped again. When it has ascertained that the dog is actually on its trail, especially in dense cover it may not keep more than a few yards in front, just hopping along. The best way to judge is to know your dog and its hunting habits. The slow dog, if persistent, is tops.

It also should be a good “starter.” In a cover where the hares are numerous, it is amazing how many will sit tight while the dog runs another all around them. Also, it certainly helps if the dog focuses on one trail. In a heavily tracked-up area some dogs keep leaving one trail to take another. This can be a dead-end situation for the hunter. Some of the more exciting sport is produced when two or three hunters each have their own dogs.

One winter three of us all took our dogs. The dogs didn't get along too well, which was great. That way they didn't like to run together. We also cannily tried to get them started separately. We kept each on leash while we looked for tracks fresh enough for the dog to follow. Then each hunter slipped his dog individually, at some little distance from the others. What a bedlam they made! And with three snowshoes going round and round at once the drama for the hunters was supreme.

Meanwhile, of course, with all the activity, every hare not under motion became uneasy. Many began to move, to seek a better hiding place. This left more and more hot tracks. When one animal was put into a game pocket, the dog quickly and easily picked up another track. One afternoon I stood on an old trail with a camera and watched six big hares cross near me in roughly 20 minutes.

These, then, are some of the tricks that help make this sport successful. A word needs to be added about what to do with your bag. When I first hunted snowshoes, I was amazed to discover that none of my hunting cronies wanted to take their rabbits home. They urged me to take all the bag. Or, as one man said, "I give mine to some people who don't hunt and don't know any better than to eat 'em."

At our house we have for years looked forward to trying new varieties of game. There is a lot of meat on a snowshoe hare. And it is delicious. Very occasionally during a severe winter one may taste a bit of cedar, if it is steadily eating leaves of cedar or other conifers. But this is not common. Occasionally one will have a cedary odor when dressed. After cooking, however, there is no such taste involved. The very first ones my wife cooked I had cut into six pieces—the four legs, then the saddle, and the rib end of the body. That last piece has little meat, once the shoulders have been lifted. But the legs and the saddle are very meaty, and of course a rabbit never has any appreciable amount of fat.

My wife arranged the pieces on a wire rack in a shallow roasting pan. She sprinkled coarse-ground black pepper over them. Then she sprinkled chopped onion over them, and laid a strip of bacon upon each piece. The pan was slipped into the oven, not covered. At 325 degrees the rabbits were baked several hours, until tender. At intervals they were basted with pan drippings or with melted butter. The low heat and copious basting kept the surface of the meat from browning too hard. They were absolutely delectable. From then on, she varied this routine only by sometimes using no onion, or in place of it a light sprinkling of garlic salt. For those who like neither onion nor garlic, other seasonings can of course be



DALRYMPLE CAUGHT this snowshoe with a load of No. 4s as it tried to cross right-of-way between two areas of thick cover.

tried. But keep it simple, so you get the full fine flavor of the game itself. Just salt, pepper, and bacon does a great job. If in skinning the animals you suspect any, or all, of being a bit tough, parboil the cut-up chunks first, then bake as above.

Although the Pennsylvania season is usually brief, and the hares not present in vast numbers, you will find in both the hunting and the eating that these ghosts of the greenswamps fit Tom Hennessey's pronouncement—the best things really do come in the least abundance.

How It Gets In

Carbon, supplied by air and the principal food of a tree, is taken in on the underside of the leaves.



The Luck of the '94

By Ken Calnon

THE HUNTER was startled by a crashing sound in the thicket below. Suddenly he saw four deer bounding through the brush. Recovering from his surprise, he quickly got into shooting position. Unexpectedly, the deer slowed to a walk as they entered a small clearing to his left. The first three were does, the fourth remained hidden by the thick brush. Was it a buck? His heart beat rapidly and chills ran up and down his spine as he waited for the last deer to step into the open.

The does were unaware of his presence and moved quietly along the trail. However, the last deer still remained hidden. After what seemed like eternity, the deer slowly stepped from behind the brush. There standing before the hunter was the trophy he had so eagerly sought but which so far had always managed to elude him—a beautiful whitetail buck!

The hunter's pulse was pounding at a terrific pace! Unsteadily he raised the Winchester '94 to his shoulder. Centering the bead on the deer's shoulder area, he fired. The deer dropped, but quickly jumped to its feet and disappeared into the thick brush. Was the buck mortally wounded or just crippled? He waited a few anxious minutes; then unable to sit still any longer he started searching for the deer.

Near the spot where the deer went down he found a blotch of blood and a tuft of hair. Further search in the leaves disclosed a slight trail of blood. Slowly and carefully he followed it. Soon the brush became thicker and the trail harder to follow. He got down on hands and knees and continued to search. After about 20 yards he paused to survey the ground ahead.

Suddenly his gaze fastened on an object ahead—an antler! Quickly the buck's body took shape. He jumped to his feet and crashed through the brush to his prize! There before him lay a splendid 7-point buck. After staring at his trophy for several minutes with mixed emotions of joy and disbelief, he realized that his luck had finally changed.

Nervously, he filled out his big game tag and secured it to a horn. He then rolled the animal on its back and proceeded rather uncertainly to field-dress the animal. When this was finished—the job actually done rather well for a first-time effort—the hunter sat back for a few minutes and viewed his trophy with a great deal of satisfaction.

Then, knowing it was a long drag to the car and he had better get going, he grabbed the deer by an antler and started straight down the mountain toward the pipeline.

When the hunter reached the pipeline, he was exhausted, but the thrill of his first trophy gave him a surge of new energy. He turned east on an old logging road that he knew would bring him out at the highway near his car.

Could Hardly Wait

He could hardly wait until he arrived home to show off his deer. His dad had taken several bucks on various hunting trips, one a magnificent 13-point whitetail, but prior to this deer season he himself had seen only one buck during the open season. However, the Saturday before this opening day he had purchased a new 30-30 Winchester Model '94, and now he had bagged a fine buck with it. Could this new rifle have changed his luck?



THE HUNTER'S PULSE WAS POUNDING. Unsteadily, he raised the Winchester '94 to his shoulder. Centering the bead, he fired. . . .

The following summer he was busy on the farm, repairing cattle fences, cultivating, haymaking and combining. Summer passed at a pleasant pace, and with the coming of fall his thoughts again turned to deer and deer hunting.

Time Growing Short

The time till opening day of the antlered deer season was growing short, and tension within the hunter mounted rapidly. One question ran through his mind. Had the new '94 really changed his luck, or was getting a deer on his first hunt with it just happenstance?

Dawn of opening day found him high on the mountaintop where he had downed his first buck. The opening hours of the season were uneventful, save for two gray squirrels searching for acorns. One time he heard the sound of deer moving along the mountainside, but could see nothing. Another hour passed slowly. He was getting a little hungry, so he settled back on his log and ate a sandwich.

The sound of a twig snapping

brought him back to reality. Slowly he turned his head and was looking straight at a buck! He froze—hoping the deer had not seen him. The buck cautiously tested the air and then looked the other way. The hunter quickly shouldered his gun. The bead steadied behind the shoulder and he squeezed the trigger. The deer lurched, ran downhill about 15 yards and fell. The hunter ran down to the animal, a beautiful 5-point buck. His '94 had brought him good luck again.

After tagging the deer, he began to field-dress it. The job went more smoothly and quickly than the previous year. After completing the field-dressing, he tied a rope around the antlers and began to drag it down the mountain. It was a long, hard pull to the car, but worth the effort. Soon another buck was hanging from the maple tree by the porch.

By mid-November of the following year, he had made several scouting trips to the mountaintop. Fresh buck rubs were everywhere and a well-used runway came close to his favorite log. The question again came to his mind.

Would the '94 bring him good luck again this year?

The faint light streaks of dawn greeted him on opening day as he waited on the mountaintop. Shortly after the legal shooting hour had passed, a rustle in the leaves caught his attention. Abruptly a gray fox broke out from behind a rock and trotted along the mountainside looking for a morning meal. Another hour passed without any more action.

Movement Catches Eye

Far down the mountainside a movement caught his eye. As he watched the spot, he saw three deer coming up the trail. Anxiously he waited for them to come within range. Perhaps excitement caused him to tighten up a little as he readied the rifle for action. The deer were blowing hard as they came by him. One — two — three, all does. Slowly he sat back and sighed. A little later several more deer came up the mountain east of him but they were too far away to determine their sex.

Dinnertime came and went. Occasionally he heard a shot from the valley, but nothing was moving on top. It was late afternoon before anything stirred again. Dejected, he left his post at quitting time and made his way back to the car.

The antlered deer season came to a close and he was still without a buck. Had the luck of the '94 run out? He had one chance left, an antlerless deer license.

Early Monday morning he was again on the mountain near a well-used trail. However, a wild turkey added the only note of interest to a dull morning.

After eating a sandwich and some cookies, he moved farther to the west to watch a hollow. He knew that the deer often used this as an escape route to the top of the mountain. Positioning himself where he could see the trail below, he relaxed and waited. About a half-hour had passed when he heard three shots from the foot of the moun-

tain. Five minutes later three does came trotting up the trail. Swinging the gun ahead of the first deer, he fired. The doe, a sleek and well-fed animal, dropped.

The luck of the '94 had not run out. He had owned the gun for three years and made three consecutive one-shot kills with it. Yes, the '94 was his good luck gun.

Quickly finishing the chores of tagging and field-dressing the animal, he looped a rope around the doe's neck and started down the mountain. He was happy even though the deer was not a buck.

Before dawn of opening day of the next year, the hunter was again at his spot. Legal shooting time arrived, and again he wondered if he could bag four whitetails in a row. Would the '94 bring him success again this year?

Things were quiet atop the mountain for several hours. Then, off to his right, three shots were fired in rapid succession. He readied himself, wondering if the buck would come his way. But nothing came. Settling back on his log, he relaxed and listened to the forest sounds around him. A gray squirrel barked from a nearby tree, a woodpecker hammered on a dead limb, a crow called in the distance.

Nearby a bluejay cried shrilly from a treetop. He thought that the bird

SHORTLY AFTER THE legal shooting hour, he heard a rustle in the leaves. A gray fox broke out from behind a rock and trotted along the mountainside.



might have seen something below. Carefully his eyes searched the laurel thicket. He could see nothing. Not satisfied, he searched the brush again. A flicking motion arrested his eye. Vaguely he could see the faint outline of the deer's head and one antler, but not the body. The buck remained stationary. Had he winded the hunter, was he playing it cozy by remaining hidden?

The buck was deliberate as he stepped from behind his protective screen. The hunter needed only one look to completely see the big rack. However, he couldn't raise his gun to shoot because the buck was looking straight at him! He remained motionless, hardly breathing. Then the deer looked away. The carbine slid to his shoulder. Aiming for the neck, he fired. The deer crashed to the ground and lay still. The hunter ran to his fallen trophy. Four whitetails in a row without a miss! Truly the '94 was his good luck omen. This prize was a noble 8-point with a widespread rack and long evenly matched tines. It was the nicest buck he had taken.

After tagging the deer, he tied a rope around the antlers and started down the mountain via the same route taken in previous years.

With the ending of buck season and the first day of doe season, each mem-

ber of the clan had bagged a deer except one. They decided to try for a clean sweep this year. The hunter loaned his good luck '94 to his unlucky brother-in-law, with special instructions not to break the spell by either missing or wounding a deer. Positioning the luckless hunter by a well-used runway, the group then put on a short drive for him.

Soon four does came trotting along the hillside toward the stander. Picking out a nice doe, he began to shoot. Four shots later, the deer was still running. Going to the spot where the deer was when he shot, they found hair and drops of blood.

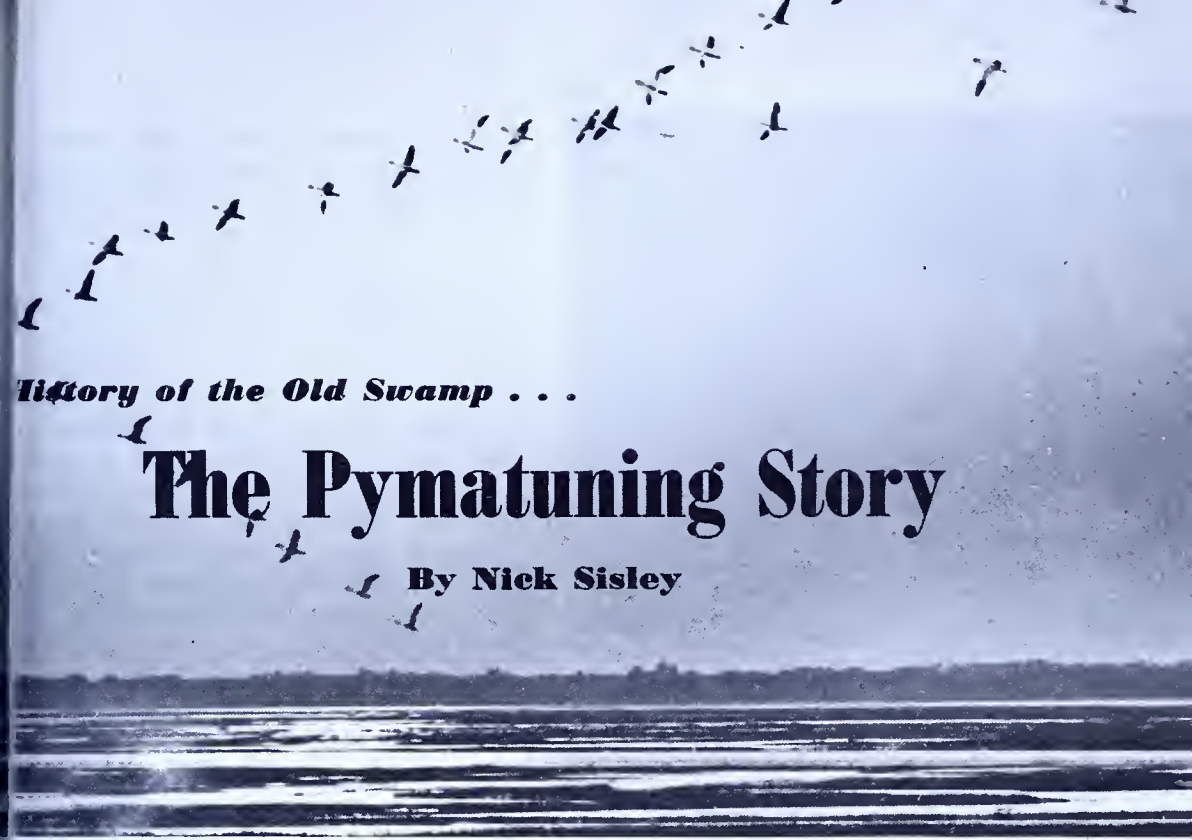
After waiting about 15 minutes, several of the gang circled around, trying to get ahead of the wounded doe, while another member followed the blood trail. Not more than 20 minutes passed when a shot was heard from the next hollow. Shortly afterwards the advance hunters came upon a man tagging the doe.

Upon examining the deer, they found that one bullet had missed the backbone by a mere inch and the other hit just below the heart!

Was the good luck of the '94 broken by this "miss" after four consecutive kills? Or will the hunter be able to kill whitetail number five next year? We'll see. . . .

Binders and Charts at State Farm Show

As always, the Game Commission will have a display at the State Farm Show this year. Dates, January 12-16; place, Farm Show Building, Harrisburg. Many visitors like to take this opportunity to talk with the Game Protectors assigned here, examine the exhibit, get tips on hunting—and often give some!—renew their GAME NEWS subscriptions, and in general have an enjoyable time. This year for the first time at the State Farm Show, it will also be possible to buy GAME NEWS binders, which hold a year's issues, for \$2 each and the new, small size (11" x 14") Bird and Mammal Charts by Ned Smith for \$2.25 per set of eight. The binders protect the magazine perfectly and make storage and reference easy, while the charts are fine for den decoration as well as being educational.



History of the Old Swamp . . .

The Pymatuning Story

By Nick Sisley

BEFORE THE GLACIERS swept across northwestern Pennsylvania, the Pymatuning was what it is today—a lake. But the great ice movements gouged out the hills of the area, filled in the valleys, and left the almost-level contours of land evident in that section today. The lake was reduced to a swamp. Paradoxically, man has reversed the works of the Ice Age and, to the joy of hunters, sportsmen, and naturalists, created a lake from this once great bog.

Just north of Hartstown, Pa., the Shenango River originates. It flows northward to the present upper lake (the refuge area), across the spillway into the main lake, turning sharply south in both Ohio and Pennsylvania toward Espyville, Pa., and Andover, Ohio, then southeast to Jamestown, Pa., and the current dam. Crooked Creek originates just north of Hartstown also, yet it flows south. The dividing line between it and the source of the Shenango River is almost imperceptible.

In 1913, the Pennsylvania legislature passed the Pymatuning Dam Act which authorized the present lake.

After years of delay and land acquisition, the upper lake was impounded in December, 1933. The lower lake was closed some weeks later. The Pennsylvania Game Commission has since leased the upper reservoir from the Department of Forests and Waters. This tract was set aside as a game refuge in 1935.

The Pymatuning was dammed primarily for water conservation and flood control in the Shenango and Ohio River valleys. It comprises 25,000 acres, of which 17,000 acres are water and 8000 acres are land. The lake is 16 miles long with 70 miles of shoreline and is the largest body of water in the state. It lies partly in Ohio, has a capacity of 67,275,000,000 gallons and a maximum depth of 35 feet.

Crooked-Mouthed Man's Dwelling Place

The name Pymatuning is of Indian origin and means "Crooked-mouthed man's dwelling place," the term "crooked-mouthed" referring to an ancient Red Man who was not famous for truth telling.

Since originally leasing the upper reservoir area, the Game Commission



SILHOUETTE DECOYS such as these are sometimes used at Pymatuning by hunters. They are easier to handle than full-body types.

has continually improved that area's wildlife management. It has purchased additional lands around the perimeter of the upper lake. It manages a total of 11,000 acres, 4160 of which are leased from the Department of Forests and Waters. Cultivation is the byword, and this practice has resulted in the Pymatuning's tremendous success as a Canada goose nesting, migration stop-over, and wintering area. More about that aspect later.

Many of the fields had to be developed into farmlands, and others had to be reclaimed after years of idleness. Drainage ditches were built, and it also was necessary to lay field tile to provide drainage in many of the table top flat fields. The size of the fields was greatly expanded to lure geese to the refuge. Unfortunately, these large migratory waterfowl are not impressed with a 10-acre cornfield. From their high-altitude migration levels it takes a huge expanse of feed to both catch their eye and lure them into descending. Otherwise they fly to a more southerly destination that has a more perfect wintering habitat.

Some 2200 acres are under agricul-

tural cultivation. Yearly, 750 acres are planted in corn, 200 acres in buckwheat, 200 acres in rye, 200 acres in wheat, and 80 acres each in sweet corn and beans for the commercial market. The remaining acreage is maintained as pasture, as grasses are the primary food requirement for Canada geese.

Puddle ducks feed in the grain fields, but their primary food requirement is the plant life produced in a marsh area. Accordingly, the Game Commission has diked several areas (several hundred acres) in the upper lake refuge to provide the constant and low water levels necessary for nesting and food production.

The nearby Conneaut Marsh and Sandy Lake areas also are a part of the total waterfowl management program in the Pymatuning area. These two areas are under the Public Law 566 program as administered by the Soil Conservation Commission. The Sandy Lake area is being developed primarily for ducks. The Conneaut Marsh comprises the outlet of Conneaut Lake. The Game Commission manages it with field plantings, mowing, wood duck nesting boxes, goose nesting boxes, and a 500-acre diked pool for water level control.

Ducks and Geese Banded

Each year the Game Commission raises and bands approximately 10,000 ducks, mostly mallards, and 300 Canada geese. Additionally, some 200 geese and 12,000-14,000 ducks of various species are captured and banded. The results of the bandings have been informative. See subtitle "Research Projects" later in this article.

Because of the abundant wildlife and their nests, predators are a problem, and the Commission maintains a predator control program. Raccoons are egg stealers and efficient at taking nesting and young birds. They pose the most critical problem. Expert trappers live trap about 100 of these furbearers each year. Snapping turtles find young waterfowl a delicacy. Accordingly, an expert is given a permit

to trap about 100 snappers annually. At times it has been necessary to trap horned owls near the Commission's waterfowl rearing pens.

Since the area originally was intended to be a wildlife refuge, it was not historically planned that the Pymatuning be a major nesting site for Canada geese or other migratory waterfowl. It was intended that the area be a resting place for migratory birds during their fall and spring flights. It was discovered, as noted previously, that geese could not be lured into a refuge simply by hanging out refuge signs around its perimeter. Many attractions for geese had to be incorporated first. Pymatuning Waterfowl Agent Ray Sickles, from experience and visits to other refuge areas, found out that vast fields of grasses and grains were the primary tool for persuading a migrating gaggle of geese to stop. Thus, the Game Commission embarked on a program to provide these expansive fields, all with the idea of persuading waterfowl to utilize the area during migration flights. The results have been phenomenal. Not only do migrating geese stop in large numbers, but a nesting and summering population of 3000 birds has been established, along with a wintering population of similar number.

Peak fall populations occur about the middle of October when migration is at its peak, with about 15,000 geese in the refuge. It is impossible to determine how many geese use the area each year because the birds are arriving and leaving all during the migratory season.

The nesting population has been an uphill battle. Geese are not sexually mature until three years of age, and only about three birds from a spring clutch survive to their first fall. However, each year, mainly because of the controlled hunting practices, the Pymatuning native goose population is increasing in size. At the same time, hunter success in the area increases yearly.

Increased hunting pressure on ducks and geese, while migration is in progress, results in poorer hunting success. When waterfowl are shot at and harassed constantly, they simply leave the area for their already predetermined wintering area farther south. This is the major reason for the current regulations in force at the Pymatuning Goose Management Area.

On the controlled portion, shooting is from sunrise to noon only. Shooting days are Monday, Wednesday, Friday and Saturday. This leaves every afternoon and three days for geese to feed unmolested. Consequently, they stay in the area longer.

To encourage shooting only at geese in range, hunters are restricted to a limit of 10 shells. To provide more sport to more hunters, the federal limit of two geese is further reduced in this county (Crawford) to one goose. Federal limits on ducks prevail. Hunters may use the controlled goose area only once each year. Dogs are permitted.

Applications for hunting the controlled Pymatuning Waterfowl Area are available from Game Protectors and the Game Commission in Harrisburg and Hartstown, Pa. A drawing of eligible applicants is held prior to the hunting season, and each successful

HUNTERS SHOULD NOT SHOOT until certain their targets are within range. To the inexperienced, a goose's large size makes him look closer than he is.



entrant is notified of the date he is eligible to hunt. One thousand names are drawn. Successful reservation holders are required to report to the Goose Management Building north of Hartstown at least one-half hour before shooting time. A drawing is then held to assign the 40 individual blinds. A reservation holder may bring three guests.

Waterfowl Checked

After the hunt all waterfowl bagged are brought back to the Goose Management Building to be weighed, sexed and aged. Over 2500 Canada geese are taken annually on the controlled area. Game Commission personnel estimate another thousand are bagged in the surrounding area. This is roughly seven times the hunter success ratio prior to the beginning of the goose management program.

Good hunting exists on the State Game Lands near the controlled area. Also, the State Game Lands of the Conneaut Marsh and the Sandy Lake area provide additional hunting to the general public.

When the reservoir was first filled, the low water level areas around the lake provided excellent duck nesting

habitat. Alders, marsh weeds, cattails, and similar plant life offered the low canopy covering needed. For several years, Pymatuning duck populations were tremendous. Then a tree-type overstory began to take over and the low, thick habitat that produced such wonderful nesting cover was lost.

Duck populations are still good, however. The most prevalent nesting species are mallards, black ducks, wood ducks, blue-winged teal, and gadwalls. More important is the use of the area by a wide variety of migrating ducks. Some ducks are using the refuge as wintering grounds.

Since 1967, areas J, L, and K have been utilized in a controlled duck shooting program. These areas, similar to the goose management areas, are open Monday, Wednesday, Friday and Saturday. Fifty hunters are permitted in each area. Selection is on a first come, first served basis, with applicants lining up single file at the Goose Management Building. Hunting ends at noon. Identification tags are issued, ducks are the only legal game, and ducks must be presented at the Management Building after the hunt for weighing, sexing, and aging.

Public shooting grounds surround-

THIS GROUP OF HUNTERS HAS downed four honkers and is heading back to the Goose Management Building where the geese will be aged, sexed and weighed.



ing the Goose Management Area, and both the Sandy Lake and Conneaut Marsh areas are open for duck hunting as well as goose hunting.

Other Migratory Species

A wide variety of interesting migratory birds other than ducks and Canada geese is abundant. Many nest in the refuge and surrounding area. Of major importance as nesters are coots, gallinules, sora and Virginia rails, doves, little green herons, black-crowned night herons, and, perhaps most important, great blue herons. A "herony" of 500 great blue heron nests has been established in the east side of Black Alder Swamp. Of course, many other migratory birds nest and pass through the Pymatuning, too — hundreds of them songbirds.

Bird Watchers' Paradise

The only bald eagles believed to nest in Pennsylvania are located within the waterfowl area. This is of special importance because so few of these birds remain. Indiscriminate shooting and the use of DDT have drastically reduced their numbers. DDT, it has been found, seriously affects the fertility of eggs. This poison is not used in the management area. An average of one of the three existing nests produces young each year.

In total, over 100 species of birds nest in the Pymatuning region. Bird lovers seeking to see new species find it especially interesting. Song and insectivorous birds are abundant. The fertile lake water produces tremendous numbers of insects. Of special importance, too, are the shore birds. And not to be forgotten are the many hawks, owls, and vultures. Twelve different species are known to nest in the area. Grain crops which are left standing over winter create a high rodent population. Native flying predators and those which migrate from the North in some winters make use of these mice.

Groups can get special permits to enter the refuge area for bona fide sci-



WHILE HIS DAD proudly watches, Larry Heffernan of Franklin displays his first Canada goose, taken at the Pymatuning.

entific or educational reasons. No guide service is provided. Don't figure you'll get a pass just because you want a snapshot of an American bald eagle, however. The very nature of a refuge requires that wildlife is not disturbed by people.

Other Hunting Available

Antlerless deer hunting has been provided in the Goose Management Area in certain past years. The number of hunters entering is regulated to keep the total within safe limits. In most years the management area is open for grouse, squirrel and rabbit during Pennsylvania's extended small game season. Hunters entering the area must register and are issued an identification badge.

In future years further hunting of species other than waterfowl on this area may be in order. This will be in line with the Game Commission's expanding policy of multiple use. Management practices for geese and ducks obviously benefit other game animals,

including deer, squirrel, pheasant, and rabbits. Additionally, these management practices have made the area the great nesting site of nongame birds it is. Hunters can take pride in the fact that their license monies have completely financed an environment highly beneficial to many interests other than their own.

Waterfowl Museum

Annually, 350,000 people visit the Waterfowl Museum, located on Ford Island. The Game Commission maintains it to display mounted specimens of most of the birds that nest or visit the Pymatuning. Over 300 specimens, all taken in the immediate area, are on display. To aid hunters and bird watchers, many of the species are shown both standing and poised in flight to better show their identifying marks and characteristics. Parking and admission are free. Hours during May, June, October and November are 10 a.m. to 5 p.m. Hours for July, August and September are 10 a.m. to 7 p.m.

To groups applying in advance, the Game Commission will provide lectures on the birds and the area as their time permits. Groups which have utilized this favor by the Commission in the past have included grade, high school and college groups, National Audubon Society, Boy and Girl Scouts, 4H Clubs, Future Farmers of America (they are particularly interested in the agriculture of the goose management area), bird study clubs and other interested naturalists.

An addition to the museum also holds display cases. They show various species of birds as families; i.e., a male, female, and young, a female and the eggs, etc. Also included are some of the furbearing animals of the region.

Another room is specifically designed for lectures to groups. It is

equipped with screen, motion and slide picture projectors, podium, and seating. The Game Commission is going to considerable time and expense to educate the general public about the region and its wildlife—again solely with monies derived from the sale of hunting licenses.

Research Projects

Waterfowl banding at Pymatuning has been a major project. From this research the following conclusions can be drawn. Though mallard bands have been returned from many areas, the majority of those that migrate through Pymatuning nest in the prairie pot-hole country of the Dakotas, Manitoba and Saskatchewan, and winter in South Carolina, Tennessee, and Kentucky. Black ducks nest in the wooded lake country of Quebec and Ontario and winter in the Chesapeake Bay area. Canada geese migrating through Pymatuning nest on the various islands in Hudson Bay and in the Ungava Peninsula, and winter inland in Kentucky, Tennessee, Alabama and South Carolina. Significantly, geese nesting at Pymatuning are more inclined to fly to the Gulf States.

Summary

The Game Commission has endeavored to both preserve and enhance the wildlife environment of the Pymatuning. Their success at doing so has resulted in a well-established model of game management. The goose hunting has become famous across the country, and the Game Commission has spent much money to increase its potential. But the result has been far greater than the goose story. The real story of Pymatuning includes all the other wildlife species that have profited through the years by the Game Commission's works.

Slow Starters

Female eels require from 8 to 12 years to reach adult spawning age.

Sometimes the Luckiest Shot a Deer Hunter Fires Is One That Misses—Provided He Then Sees a . . .

Second Chance Trophy

By Clyde R. "Pete" Harris, Sr.

As Told to James D. Hockenberry

I MISSED my buck! And I'd be lying if I said I wasn't awfully disappointed about it. It was about 3:15 p.m. on Monday, November 27, the opening day of the 1967 deer season, and I was standing on the slope above my camp wondering how it happened. The first two shots were careful and deliberate, the rest were the futile, desperate kind, fired vainly at a rapidly retreating trophy. The kind that anger a veteran deer hunter at himself. I lit a cigarette, opened the top three buttons of my Woolrich coat, and slowly worked my way up the ridge to pick up the buck's track where I had last seen him. It didn't surprise me when I found no trace of blood after following the trail for several hundred yards. I knew I had missed, I just couldn't understand how.

The buck had appeared suddenly on the slope. I figured him to be about a 4-point. He was angling down off the flat, just over the edge. It was an up-hill shot, about a hundred yards away. I never touched a hair, missed him clean. Like I said, I'd be lying if I didn't admit to being disappointed. I'd also be lying if I said I had never missed a buck before. The thing I think I was most unhappy about was that it seemed after the few times I had missed, I never got another chance at a buck. The prospect of a repeat of this past phenomenon was not particularly appetizing, since I still had several days left to hunt and I sure was looking forward to some venison.

I stood on the edge of the flat for awhile, reflecting on my miss, then began working back to camp slowly,

rechecking the trail carefully for any sign of blood. A lot of deer are left dead in the woods, simply because a hunter was sure he had missed and hadn't bothered to check. I've seen deer run a good distance, hit awful hard, before leaving a trace of blood. It pays to check, and double check, well.

No Deer Liver Tonight

The legal shooting time was just about over, and what sun there was had dipped behind the ridges in the west, as I approached camp. Lights were on, so I knew my hunting partner, Ab Dean, was back. I didn't see any deer hanging. No deer liver and onions tonight. Ab hails from Wilkesburg, Pa., is a lifelong friend and business associate, and we've hunted together longer than I care to remember. He's also the finest taxidermist I have ever met. Our camp is located between West Hickory and Tionesta, in the vicinity of Dawson Run, Forest County. Built on a long gradual slope, the front faces a hollow, and the back faces the ridge. I consider it prime deer country. But then I guess just about all of Pennsylvania is prime deer country, and I suppose all deer hunters feel the way I do about their camps.

I won't try to describe the supper we had that night, because every man who has ever enjoyed the rugged comforts of a few days in a mountain camp knows full well how good the food tastes. Over hot coffee, I relayed the details of my unexplainable miss to Ab. He rode me quite a bit about buck fever, but knows full well I've



been hunting too long and have bagged too many deer for that.

"You know, Ab, it's really odd, but as long as I've been hunting, I've never taken a deer two years in a row. I got that buck behind camp last year, so I wonder if I'm just not supposed to bag one this year. I'd sure like to break that chain of luck. And another thing—till now, the biggest buck I've downed is a 6-point. Just once before I hang up my gun, I'd really love to shoot a trophy buck."

Ab mumbled something about not being able to get a trophy if you couldn't hit one, and we went on cleaning up the camp and our gear and readying for the next day's hunt. After my partner turned in for the night, I decided to have another cup of coffee and glance through a newspaper we had picked up in Tionesta the day before. Out of habit I turned first to the outdoor section. I was a little restless, and blamed it on the day's frustrating episode, but it was more than that. A vague memory was buzzing through my thoughts. Something about shooting at uphill or downhill targets. Suppressing it, I went back to the paper. A column devoted to point of aim and the vital areas on big game caught my attention and I began to read through it. There it was! A paragraph explaining that on uphill or downhill targets, the shooter should hold a bit lower than usual; otherwise he'd have a tendency to shoot high, possibly over a deer, which presents a fairly small vital area. Before turning in, I thought this theory over and decided that this was the reason I missed the buck up on the slope today. It was an uphill shot. Even if wrong, it seemed like a good alibi!

We awoke the next morning to find it had snowed some during the night. Not too much, just enough to make good tracking. After a quick breakfast I headed toward the place I'd hunted yesterday. I particularly like this spot because it's used by the deer as a natural passage between the flat on

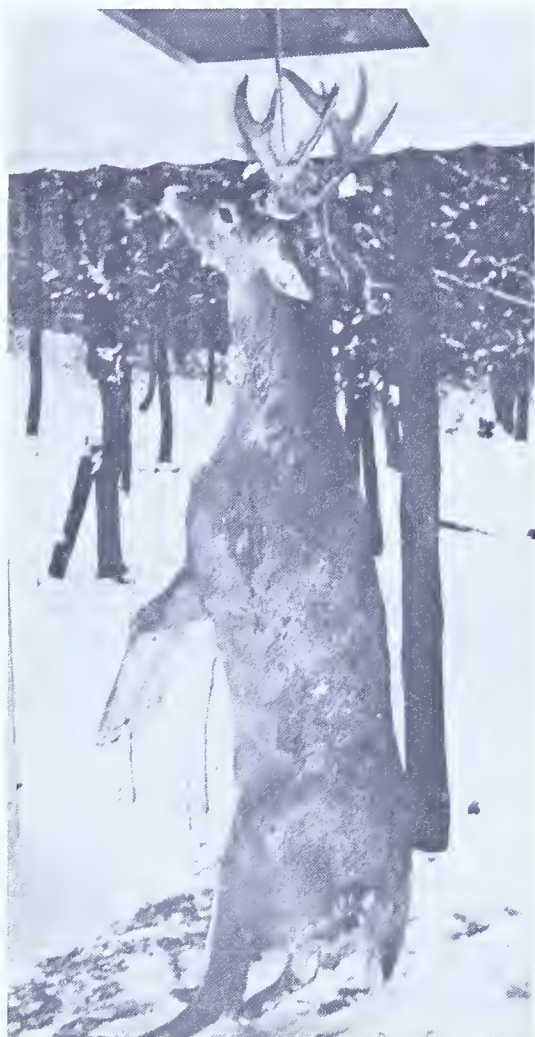
top of the ridge and the hollow below when hunters invade either one of the areas. I made my way up the slope slowly, brushed snow off a log, spread a piece of plastic and sat down. The Allegheny River was visible from here, making its constant south-by-west trek toward the inevitable rendezvous with the Monongahela at The Point, where the Ohio is formed, at Pittsburgh. It turned out to be a perfect hunting day. No wind to speak of, overcast, and fresh snow. Two hours flew quickly by. A glance at my watch told me it was ten minutes to nine already and I had seen only a couple of deer, both does.

I Saw Horns

Suddenly a deer came into view, moving below me. It was sneaking through, parallel to the road, about 40 or 50 yards down the slope. Then I saw horns. It was a big deer with a nice rack. I eased my rifle, an old veteran 303 Savage, take-down model, with open sights, into position, took aim at a point just behind the shoulder and fired. The buck took one huge leap and disappeared into a large patch of laurel. I wasn't exactly sure whether I had hit it or not. I didn't move a muscle. I couldn't see the deer, nor detect any movement. It was completely hidden in the laurel thicket. Five minutes ticked by. I wasn't sure what to do. It was surprising how utterly calm I was. Figuring the deer must be dead in the laurel, out of sight, I decided to go down and take a look. Sure glad I didn't, because just then the deer stuck his head out of the thicket and looked around carefully.

After firing the first shot I had automatically chambered a second shell, so was ready. The buck stepped cautiously out of the thicket. At the roar of the second shot, the deer took off running at full speed through an open area. It was downhill from me. Maybe I should have held lower.

Levering a third shell into the chamber, I managed to get the front bead on the shoulder of the fleeing buck,



lowered it a few inches and squeezed off. It was my last chance. At the explosion the buck took a great leap straight up and fell on its back. I had finally done what every deer hunter hopes to do—made a clean kill.

Excitement now took hold of me for the first time since spotting the fine buck. I hurried down to where it lay motionless. Its head was twisted at an awkward angle, the antlers stuck in the snow. I approached cautiously and found the buck was stone dead. Only now did I realize what I had shot. The buck was very big, with a heavy neck. The rack was huge and thick, and excitedly I counted 12 points.

I carefully field dressed my trophy, put the liver in a plastic bag, and started the trek back to camp, dragging my buck. When I reached camp,

Ab was there and helped me hang up my buck. Then we went inside for coffee and I told the story of my hunt. After hearing it, Ab's taxidermist's instinct got the best of him and he went out on the porch to inspect the buck. Suddenly he called out, "Hey, Pete, come out here a minute. I count *thirteen* points on this rack!"

Magnificent Antlers

And he was right. Because I had been excited and the buck's huge rack was stuck in the snow when I first counted, I had overlooked a tine sticking out unnaturally from the main antler on one side of the rack. It was about four inches long and projected at a slightly downward angle. This was the only imperfection in the rack. Otherwise the antlers were magnificent. They were very thick and heavy, and measured 19 inches on the outside spread, with long heavy tines. All in all, I had bagged a real trophy. The type almost every Pennsylvania deer hunter spends his entire lifetime searching for.

On my way home from camp I stopped at the Game Commission's deer checking station near Clarion. This is a habit every successful deer hunter should practice. Here, a hunter can find out not only the age and the exact weight of his deer, but he also can aid Pennsylvania's wildlife biologists in gathering information necessary for the management of the state's deer herd. I was informed that my deer weighed 139 pounds, hog-dressed, and was $4\frac{1}{2}$ years old.

I'm not sure I can explain how I missed the first buck completely and then missed this one the first two shots. Maybe it was me, or maybe my gun wasn't zeroed in. Or just maybe there is something to the theory of holding slightly lower on an uphill or downhill shot. I'm sure glad I did miss the first buck though. That's what made my chance at this big buster possible. And by the way, Ab Dean got the job of mounting my truly fine second chance trophy.

Where Have All the Insects Gone?

By Helen Ross Russell

IF SOMEONE were to organize a winter insect census like the bird census that is held in many communities between Christmas and New Year, the results would undoubtedly make headlines all over the country. A published report on the different species sighted, the astronomical numbers captured, the activities observed and the locations covered could dwarf the Sunday edition of the *New York Times*.

The dramatic possibilities of such a census are endless, as, unless the community was carefully prepared for the project, the results could be harrowing.

A census taker could be delighted to find 2000 "scrambled eggs" on Mrs. Wilson's wild cherry trees. But when Mrs. Wilson discovered that these were really 10 tent caterpillar egg packets composed of about 200 eggs apiece, and that the census taker called them "scrambled eggs" because each egg shell contained a tiny fully formed caterpillar that could wiggle on warm days but would not hatch until the leaves appeared in the spring, she might be quite upset.

And if the number of "scrambled eggs" was 20,000, as it could well be in a good tent caterpillar year, she might feel compelled to get rid of her wild cherry trees. Even if she could

look on them as wonderful food for chickadees, brown creepers and nut-hatches, she might have difficulty appeasing her neighbors unless the census takers could come up with similar statistics on the other side of the fence.

Just as individuals might feel threatened so might a single community unless its neighbors also were counting and discovering the number and variety of insects in their dooryards. The late Dr. Frank Lutz of the American Museum of Natural History stated in *The Field Book of Insects* that more than 15,000 species of insects could be found within a 50-mile radius of New York City. (Compare this to the 168 species of birds reported on the Christmas census for the whole state of Massachusetts in 1966.)

"Down" or "In"

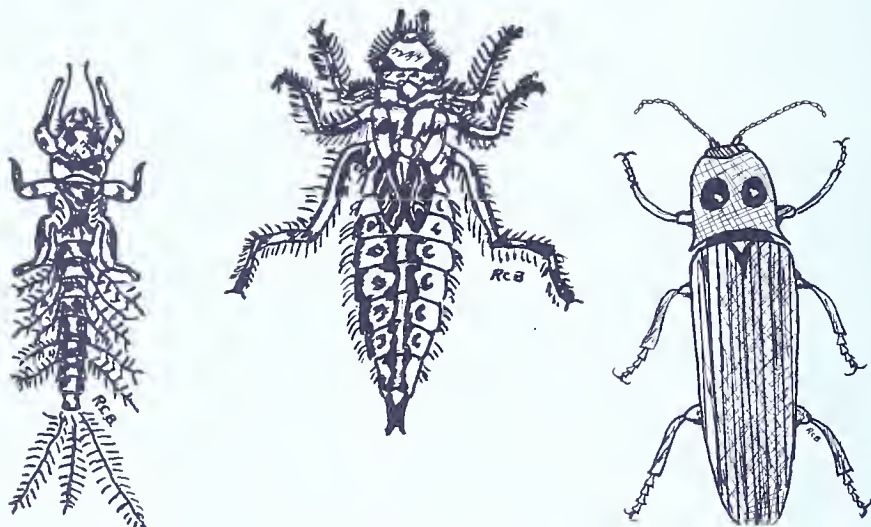
Of course, not all of the insects of an area can be found in winter. A very few, such as the Monarch butterfly, migrate to warmer climates. Most migration, however, is either down or in. "Down" on the part of many ground dwelling insects; "in" on the part of some of the tree dwellers which move toward the center of the tree. But all this migration still leaves millions of individuals representing thousands of different species in places where they can be counted.

Any ice fisherman can collect a wonderful variety of active insects by laying aside his fishing rod and exploring the lake with long-handled dip net. As he examines his catch with frozen hands he cannot help but be impressed by the hardness of these small creatures.

If he moves his insect fishing activities closer to the shore where he can reach the bottom, he will find that he is catching larger numbers and a greater variety.

About the Author

Mrs. Russell now works at Wave Hill Center for Environmental Studies in New York City, but her interest in insects developed during childhood on a farm near Myerstown, Pa. She majored in biology at Lebanon Valley College and received her M.A. and Ph.D. degrees from Cornell University, with minors in insect ecology. Her book, "City Critters," published by Meredith Press in 1969, deals with animals that live in the inner cities.



Dragonfly nymph

Mayfly nymph

Eyed click beetle

Except for mosquitoes and some kinds of flies, all of the insects that live in water can be found there during the winter months. In order to survive in winter these insects must have developed adjustments to reduced food and oxygen supplies.

Some do this by settling to muddy or plant-strewn bottoms and remaining inactive, but others with higher oxygen requirements move to better places.

True Bugs

The true bugs, including water boatmen, water striders, the giant water bug, back swimmers and water scorpions, breathe air directly at all stages of their existence. In summer they come to the surface or extend a breathing apparatus above the surface for this purpose, but this is impossible in frozen ponds and lakes.

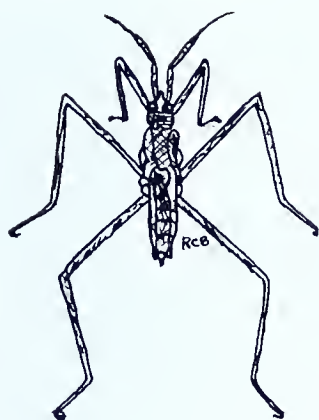
Sometimes numbers of back swimmers and water boatmen can be found in air pockets on the underside of ice, or in clusters on grass overhanging the bank or buried in a bed of sphagnum moss in company with other bugs.

One of the most interesting communities is a patch of aquatic green

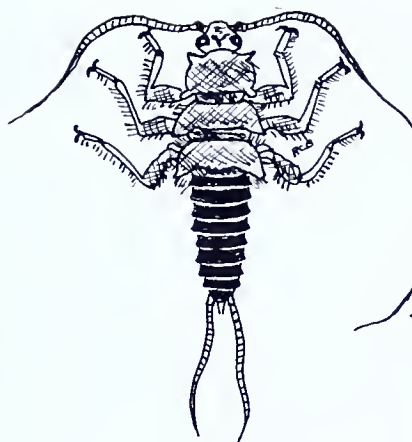
plants. Here adult back swimmers and water boatmen frequently congregate in the fall along with adult water beetles and nymphs of mayflies. Nymphs of dragonflies and damselflies will be on hand to feed on the other insects. All obtain their oxygen from the photosynthesis of the plants. Of course, if heavy snow collects on the ice so sun cannot reach the plants, the natural oxygen cycle will break down and insects as well as fish will suffocate.

A running stream which makes constant contact with the air has less of an oxygen problem in winter and many of its occupants remain active.

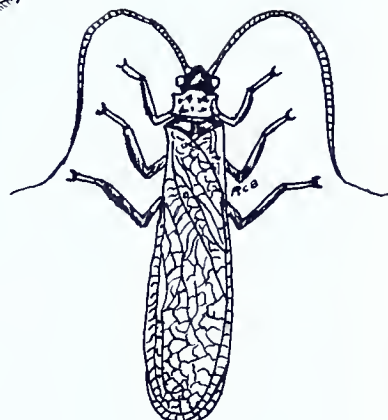
Some caddis flies in their stone houses continue to feed all winter, others curl up under a rock and hibernate, still others pupate. As long as algae are available, mayflies continue to feed. One species of blackfly can be found in the larval stage at the foot of waterfalls, straining micro-organisms from water, but most blackflies are pupating, ready to emerge in early spring to plague fishermen, hiker and gardener. This pest dramatically illustrates the problems of management of nature. We can kill blackflies but in



Water strider



Stone fly nymph



Adult stone fly

so doing we harm the total community of invertebrates, thereby destroying the food for both fish and water birds.

Many species of stone flies do not wait for spring to emerge as adults. In January and February stone fly nymphs crawl out of the water to molt for the last time. As winged adults they clamber over the snow, climb tree trunks and feed on algae, mate and return to the water to lay eggs that will start a new cycle of fish food.

Some gnats also emerge from streams on sunny winter days. These relatives of the flies have complete metamorphosis and pupate in mud on the stream bottom. As they fly in swarms with their heads all facing the wind they are sometimes confused with mosquitoes but they neither bite nor sting.

Many outdoorsmen have seen snow fleas or springtails making black, gray or colored patches on the snow or skipping on the surface of a quiet pool as hundreds or thousands of these ancient insects emerge in late winter. Since they vary in length from one one-hundredth to two-fifths of an inch, it is only their huge numbers that make them visible.

Anyone who shoots a woodchuck when he comes out to check his shadow will have another source of small, active insects of varying kinds. All animals have parasites and the parasites of mammals have no change of habitat or habits when cold weather arrives on the scene.

However, most land dwelling insects are faced with problems that can be solved only by a period of hibernation. To do this they often congregate in huge numbers.

Ladybird Beetles

Ladybird beetles may be found in scores, hundreds or thousands in attics, sheds, hollow logs, and other sheltered spots. Cluster flies and houseflies gather in similar numbers and places. Cluster flies resemble houseflies in size but their wings overlap on their back. Their larvae are parasites of earthworms.

Many different kinds of insects may be found in one place. A hollow log is a favorite winter resort. Many of the insects that live in it during the summer simply hibernate there and many others move in from outside.

Termites and ants may be found

tightly packed on top of each other in their home galleries. In another spot a pile of the *Polistes* wasps which make small paper nests may be found, or a solitary black-and-gold bumblebee queen, or a white-faced hornet queen. All of these queens are the only survivors of their kind. They mated in the fall before males and workers were killed by the frost. Now with sperm stored in their bodies they are awaiting warm weather and the time to start new colonies.

Many in Logs

Many beetles may be found in the log. Some, like ladybird beetles, have taken refuge there. Others feed on the dead wood and are sleeping in their dining room. Still others feed on other insects and have also converted dining room to bedroom.

Beetles, as well as flies, mosquitoes, moths, butterflies, ants, wasps, bees and dobsonflies, have complete metamorphosis. In these insects drastic changes take place in body form and sometimes in diet and habit during a period of inactivity known as the pupa stage.

Some species of beetles overwinter in the larva stage; some, in the pupa; some, as adult. A few, like the eyed click beetle, with a 3-year life-span, may be found as a yearling larva, a 2-year-old larva, and an adult insect.

Butterflies and moths also overwinter in a variety of stages. Mourning cloak and red admiral butterflies may be both found asleep in hollow logs. Naturally, they are two of the earliest harbingers of spring, since they are ready to get up and go with the first warm weather. The big night flying moths overwinter in cocoons. The large papery sack of the *Cecropia* can be found on tree branches, the smaller tough cocoon of *Promethea* hangs below the branch, *Luna* and *Polyphemus* fall to the ground with the tree leaves and are well hidden on the forest floor.

Bagworm cocoons also hang from the branches of many trees. By winter-time these cocoons are either empty or

filled with eggs. (Bagworms are a fine example of the fact that almost all rules have exceptions in the insect world.)

During pupation only male bagworm moths develop wings. The females in many species lose eyes and legs during this period. But beauty is not important. She waits inside the bag for a male who flies to the cocoon and mates with her. Still in the cocoon she lays eggs in her empty pupal skin, then drops to the ground and dies.

Many scale insects follow a similar pattern of life and 10 to 50 eggs may be found under every female scale. Scales are true bugs with piercing sucking mouthparts. They secrete a waxy roof over their soft bodies. Male scale insects break all the rules and pupate. (All other bugs have gradual metamorphosis, looking like adults from the time of their birth except for body proportions and lack of wings; they gain more and more of an adult appearance on each molt until the final one when wings break forth from the wing pads.)

After pupation the male scale insects emerge as winged insects and seek out the females under their protective scales. Like the bagworm, they mate with the sac-like female without seeing her.

Huge Numbers

A pine tree infected with pine needle scale is a fine place to get some idea of the huge numbers of insects. Often the needles seem frosted with snow; but close examination reveals white waxy scales.

Anyone who makes an estimate by counting scales on one branch, dividing by two to get the number of females, and multiplying by 20 (an average number of eggs for this species) will be impressed by the astronomical numbers of tiny insects that will be around in the spring.

Controlling both bagworms and scales by sprays is difficult since these insects make protective covers for themselves immediately after hatch-

ing. In fact, spray programs sometimes increase their numbers since parasitic wasps which attack both insects and ladybird beetles which attack scales are killed by the sprays.

Other insects well protected from sprays as well as weather conditions are the gall-makers. Galls are benign tumors made by plants in response to enzymes deposited by an insect. Each gall is specific for the plant and the insect. While some insects emerge from the galls in the fall to pupate in the ground or some protected niche, others overwinter either as a larva or a pupa in the gall.

Some galls like the pine cone willow gall provide winter housing for other insects and insect eggs. If it is cut open the bright orange fly grub will be found in the central cell, but a variety of eggs and small insects may be discovered by peeling off the individual scales of the "cone."

The hiding places for insects in winter are endless. An insect hunter can get help from many winter birds. When a chickadee perches on a red cluster of sumac berries, he's there for the insects hidden in the center. A nuthatch going down the trunk of a tree is collecting dinner. Here is a cocoon; here a row of shiny black aphid eggs; tucked away under a loose piece of bark is a small beetle; here in a rotten spot insect eggs and larvae are buried. A garden slug is hidden behind a

mucus cover. Spider eggs under silken mats can be found in many corners. The nuthatch is not an entomologist; he happily eats all insects and any other small live thing that comes his way.

Both fish and birds are important in keeping the hordes of insects in check. Most birds feed their young insects or animal food even though they may live on seeds and plant products as adults. Conversely, insects are important, too. Without them the world would be practically devoid of both fresh water fish and birds.

Some insects of course do serious damage to crop plants. Others cause damage when they live in the dead wood we use for building, but are useful in the wild in helping transform big molecules into small reusable ones. Some are vectors of disease. Others are important agents of pollination both for crop plants and for the wild green plants which are the source of oxygen for all life.

Their numbers are huge, their habits varied. They have evolved in many directions since the first springtails and other primitive insects appeared 300 million years ago. They cost us huge sums of money. They are an important part of life. They are exasperating. They are fascinating. One fascinating aspect of their story is the large variety of ways in which they respond to winter.

Nearly 6800 Acres Purchased for Hunting

The Pennsylvania Game Commission recently approved the purchase of 6791 acres to be used for public hunting. The tracts, located in seventeen counties, will cost \$463,558.90. Monies for the purchase will come from the Game Fund. The counties in which acreage will be bought are: Armstrong, Bedford, Berks, Blair, Bradford, Bucks, Centre, Crawford, Dauphin, Erie, Fayette, Huntingdon, Lehigh, Mercer, Perry, Schuylkill and Somerset. Two of the purchases will result in new State Game Lands. One, of 770 acres, will be located in Cambridge and Rockdale Townships, Crawford County, and the other, involving about 1270 acres, will be located in Snyder Township, Blair County.



Snow Bu

WHEN HUNTERS GET afield early in the morning after a fresh snow, it's sometimes possible to track a cottontail to a brushpile and boot him out . . . but not always. A chuck hole often provides perfect safety for the bunny—and frustration for the hunter.

FOR OVER A DECADE Penn have been given a second chance game in the week after Christmas, taken the limit of 20 in the fall season provides unforgettable sport for now and early January, tracking now temperature keeps gunners moving adds up to good game bags, s hun quarry is and they go after Car a sort of "Number Two" season, hu





unnies

Pennsylvania rabbit hunters chance at their favorite small mas, provided they have not season. The extended season for most. In late December now is common and the low moving. This situation often hunters can tell where their Can it be that, since this is n, hunters try harder now?

By Steve Szalewicz

COTTONTAILS ARE the first game for most youngsters, but the appeal of a cold morning and a brown streak scuttling ahead of the hound never lessens, and adults too find themselves facing wintry blasts just to bag a bunny.





FIELD NOTES



He'll Learn

VENANGO COUNTY — While checking hunters, a new deputy and I approached a father-son duo hunting squirrel. The boy, age 12, upon our approach stated, "I thought it was the First Cavalry coming." My deputy did a double take at that and looked his uniform over carefully asking me, "Do you get these comments on uniforms often??"—District Game Protector L. Yahner, Franklin



They're Convinced

LUZERNE COUNTY—At a recent Deputy Training Conference it was suggested that we wear fluorescent orange caps in the field, to remind drably dressed hunters of the safety benefit of this color. Late on opening day of the small game season, Deputy Stan Sowa of Nanticoke reported seeing a radiant trio in the field. Two were wearing blaze orange caps and vests, and third partner, who was much smaller than his pals, wore a well-fitted fluorescent orange vest—behind his dog license. — District Game Protector T. Vesloski, Plains.

And "Quack, Quack" to You, Too

MONTGOMERY COUNTY—While sitting in the dark along a small creek waiting for the opening hour of duck season, Deputy Rudy Nerlinger and I heard, *Quack, Quack, Quack, Quack*. This was repeated quite a few times in the next 15 minutes. Remarks such as: "Poor imitation of a duck," "That guy is going to scare all of the ducks out of the county," and "He can't use a duck call at all," were heard in the car. Just before the opening hour, we decided to investigate. As a nice fat mallard swam across the creek, I remarked to Rudy, "See there, I told you that fellow couldn't use a duck call."—District Game Protector H. T. Nolf, Telford.

Pays to Publicize

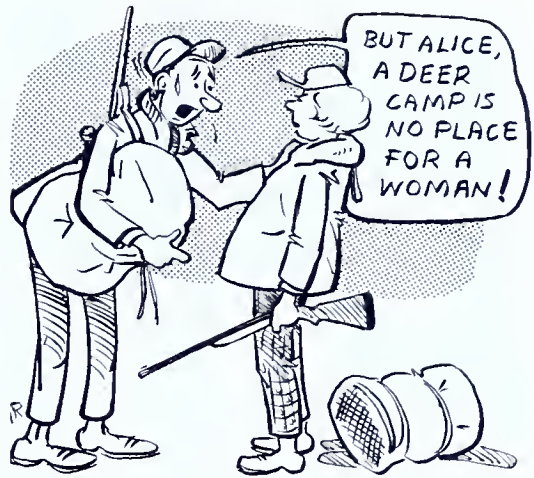
FRANKLIN COUNTY — I don't know whether I want another Field Note printed in *GAME NEWS* or not. My last one had quite an effect on our household. It had to do with the abundance of pheasants on Cooperative Farm Game Projects in Franklin County and the farmers asking for hunters to come in and harvest them. I had so many calls from persons wanting to know a particular farm on which to hunt, it seemed my phone was continuously ringing. I even had calls from Maryland, New York, New Jersey and Ohio. At any rate, I think we had a very successful opening day for small game in Franklin County this season. I talked with two of these farmers recently and they told me they were glad to see the hunters on their land.—Land Manager D. L. Stitt, Chambersburg.

Plain Truth

ERIE COUNTY—A few days ago, my wife brought me a small scrap of paper that she found on the desk of our 10-year-old son Scott. On this torn corner of a notebook page was drawn a cartoon of a turtle standing on a pipe over a stream, with pollution pouring from the pipe. A fish was looking out of the water at the turtle. Above the turtle was scrawled, as only a 10-year-old could, "If you think the water is bad, you should try the air." The real heartrending part was on the reverse side. In the same innocent scrawl, it said, "Man uses his brain to destroy the world." It is really true. At this very tender age, he is apparently aware of the stinking mess we are bequeathing to him and his generation.—District Game Protector R. L. Sutherland, Erie.

Hard to Convince

BRADFORD COUNTY—One day during duck season Deputy Rinebold was checking for late hunters when he came upon several men on a beaver dam who were shooting after hours. He identified himself and started to take the required information. While he was writing two hunters up, a third, who was standing behind the deputy, saw a duck swimming toward him and raised his gun to shoot. One of his buddies yelled at him telling him not to shoot. He lowered his gun, then started to raise it again. At that, Deputy Rinebold turned to him and said, "Don't shoot, I'm a Game Protector." The man lowered the gun again. The deputy turned around to continue to write up the two other hunters. Suddenly, he heard a loud *Bang*. Temptation had got the best of the third hunter and he shot the duck. In turn, he of course was arrested for *very* late shooting.—District Game Protector D. C. Beach, Towanda.



Good Question

CUMBERLAND COUNTY—Checking through the license applications for the current year, I have noticed that a large number of husband and wife teams have purchased hunting licenses in my district. I was wondering if more women have decided to join their spouses in this fine sport, or if the little lady wants to go along to deer camp this year to find out why Dad never seems to get his buck.—District Game Protector J. P. Filkosky, Mechanicsburg.

But Who's Gonna Teach 'Em?

MERCER COUNTY—As any married Game Protector very well knows, our work would be greatly increased if we could not depend on our wives to handle certain tasks—like answering the phone, cleaning the office, buying money orders, and a great variety of other things. But, there was the time my dear wife called me to see the crow near our back porch that was actually a purple grackle; the time she saw little pheasants that were actually quail; and finally the time she told me, in an attempt to make me feel better about missing some ducks, that maybe my shotgun sights were out of alignment. How about a little training for our wives?—District Game Protector B. K. Ray, Sheakleyville.



Hey, Mabel, Get a Load of Him!

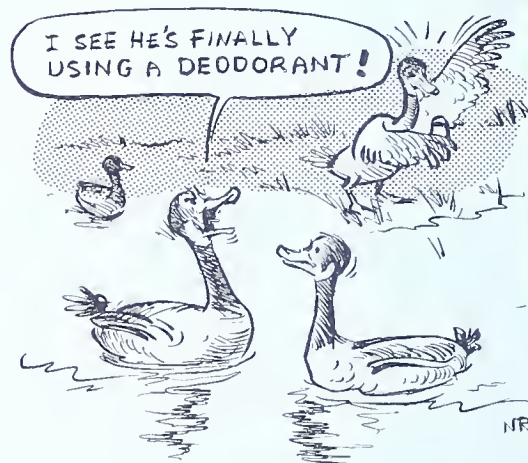
CARBON COUNTY—During the first week of archery season while patrolling State Game Lands 141, I saw an archer hunting along the edge of a food plot. He was dressed entirely in camouflaged clothing and was sneaking along in Indian fashion, probably thinking he would surely be able to see a deer before it would see him. What made this scene rather amusing was the fact that two deer were standing in the edge of the woods about 40 yards behind the hunter, watching every move he made.—District Game Protector C. E. Burkholder, Weatherly.

Fine Example

FRANKLIN COUNTY—I saw an incident recently which helped strengthen my faith in the good sportsmen of this state. I was on patrol during dove season when I saw a hunter picking up some trash which had been thrown there by thoughtless hunters. I asked why he was picking it up when he did not put it there. His reply: "I like to hunt on this property, and if some hunters keep throwing trash on it we all might lose this privilege." If we had more hunters like this man, we would have more open land to hunt on.—District Game Protector J. D. Mort, Chambersburg.

Good Program

CENTRE COUNTY—On October 23, an excellent program of Conservation Education was put on at the Penns Valley High School by the FFA advisor John Zubler with the assistance of several members of the FFA. An actual conservation development area is located near the school. The Game Commission has furnished seedlings and advice for setting up the area, and plantings have been made every year for some 12 years now. The students had several conservation films shown them, followed by an actual field trip to the demonstration area. Much interest was shown in the wildlife area where plantings have been very successful, and there is evidence of wildlife using the area.—District Game Protector A. J. Kriefski, Centre Hall.



Discerning Damsel

FULTON COUNTY—CIA Joe Chick and I were covering the elementary schools in the county with a Wildlife Conservation Program. Our theme was the life of the wild goose. Following the film, I asked if anyone could guess why geese fly in a V formation. One little girl thought that perhaps the one right in front might not smell very good.—District Game Protector C. E. Jarrett, McConnellsburg.

Good Gunnin' Comin'

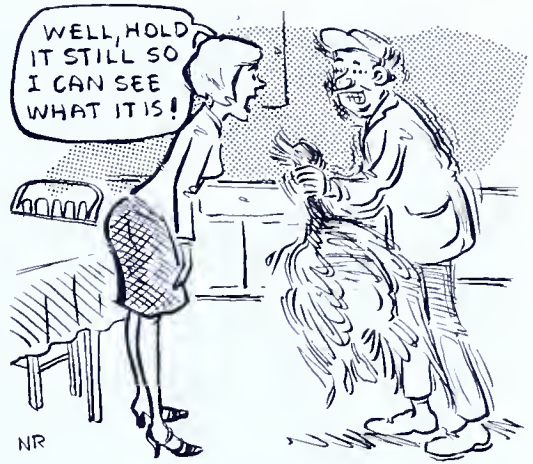
PIKE COUNTY—I would estimate that over 300 persons were hunting waterfowl on the Shohola Waterfowl Area, State Game Lands 180, on the first day of the waterfowl season. What will it be like when the area is fully developed?—District Game Protector D. S. McPeck, Jr., Matamoras.

Pure Logic

FRANKLIN COUNTY — Deputy Monn and I were on routine patrol when we received a radio call to dispose of a highway-killed deer. After loading it, we got another call to dispose of an illegally killed deer. After loading the second deer we received yet a third call to dispose of still another highway-killed deer, and I said maybe we should get a truck. Deputy Monn had another idea. "Why don't we just turn off the radio?" he asked. —District Game Protector R. E. Schmuck, Greencastle.

Determined Youth

DAUPHIN COUNTY—On patrol in State Game Lands 211, Deputy Harry Whitney observed some odd tire tracks on the Ellendale Tower Road, which is closed to traffic. He assumed they were made by a hunter taking a homemade deer cart to the top of the mountain. After proceeding about a mile up this road, which has a fairly steep grade to it, he was surprised to find a hunter sitting in a wheelchair. Upon conferring with the hunter, he found that he had traveled that far by himself. The hunter proudly posed for a picture with the squirrel that he had bagged. This hearty young man certainly can put to shame many of our present day hunters who keep insisting that we open our cables so that it would be convenient for them to drive to their hunting area.—District Game Protector S. L. Opet, Millersburg.



Now That's Chilly!

SCHUYLKILL COUNTY — During October I had the opportunity to see just how it feels to be a member of the Polar Bear Club. While checking goose hunters at a fairly remote local lake, I shot a Canada goose. Much to my chagrin it came to its final resting place in the middle of the lake. I had no choice but to swim for it. I feel that it will be quite a while before I try my hand at hunting geese again.—District Game Protector P. G. Piechoski, Tamaqua.

Happy Visitors

BRADFORD COUNTY—Six Florida and two New York State residents were well pleased with Pennsylvania archery deer hunting this fall. This group of eight hunters bagged five deer in their week's hunt. — District Game Protector A. D. Rockwell, Sayre.

A Bird of Another Color

LANCASTER COUNTY—One day this month while on patrol I saw a white bird flying along the road. I stopped the car and waited. Finally it came back past me and settled on a utility wire. I got a real good look at it and it was a white barn swallow.—District Game Protector J. P. Eicholtz, Strasburg.



Expensive Method

LYCOMING COUNTY—As I was walking a small river inlet looking for a position to sit down and await some ducks, two woodies settling down ahead caught my eye. Taking one step forward I heard a twig snap under my foot. Immediately, the ducks were up and gone. I had just sat down and begun to wait when I heard what sounded like heavy equipment coming through the brush. The noise came closer and I saw a young hunter heading to the area where I had just seen the ducks. As he reached the bank he immediately shot. After a short pause he shot again and again—and again and again and even again! By this time I was curious. I approached the hunter and asked what all the shooting was about. Six 12-gauge, 3-inch Magnum empty cases littered the ground. The hunter told me he had dropped a wood duck on the first shot but the water where it fell was over his hip boots and he was just trying to give it a little push to the other side.—District Game Protector D. A. Bernhardt, Jersey Shore.

Aw, Come On, Now . . .

CAMBRIA COUNTY—A recent request from a hunter wanted a doe application for Pymatuning.—District Game Protector L. D. Mostoller, Johnstown.

We Wouldn't Either

McKEAN COUNTY—On the first day of turkey season I checked three men who were hunting together. One had a turkey, one had a red fox, and one had nothing. After talking about the hunt, one of the fellows started to kid the other guy about killing the fox. And the hunter with the fox said, "If you think that is bad, wait till I tell my wife that it cost us \$30 to get it and we can't even eat it. Come to think of it, I don't believe I'll tell her."—District Game Protector D. A. McDowell, Jr., Smethport.

Max's Daily Double

ARMSTRONG COUNTY—On the first day of small game season, Max Shilling of Kittanning was hunting rabbits with some friends. He saw a rabbit running toward him. He pulled up and fired, and the rabbit dropped. When he went over to pick it up, he found the rabbit and also a black snake which he had shot with the same shell. A little cold for the black snake—and awfully unlucky, I'm sure you'll agree.—District Game Protector R. H. Muir, Kittanning.

Excuses, Excuses

DAUPHIN COUNTY—While I was settling a littering violation with an individual at his residence, his daughter made the remark that the beer cans scattered along the highways are a help to motorists. When I asked for an explanation she stated that in foggy weather the headlight reflection off these cans helped the driver determine where the edge of the road was located. Do you suppose this is the reasoning of the litterbug who pitches his beer cans out of the car window? Somehow, I just can't believe it. Can you?—District Game Protector S. L. Opet, Millersburg.



CONSERVATION NEWS



THE WYOMING VALLEY BEAGLE CLUB recently held its first AKC licensed field trial since its reorganization. The club also has purchased its own training grounds. In this meet, 142 dogs were entered. Handlers were present from New York, New Jersey and Ohio, as well as Pnnsylvania. Gettysburg Miss Car Line (13-inch), owned by R. J. Hartman, Columbus, Pa., and Director's Playgirl (15-inch), owned by Sergie Mattein, Pleasant Valley, N. Y., finished as field champions. Ray Sedorchuk was field trial chairman; judges were John Klutzaritz and Mike Zoltanski.

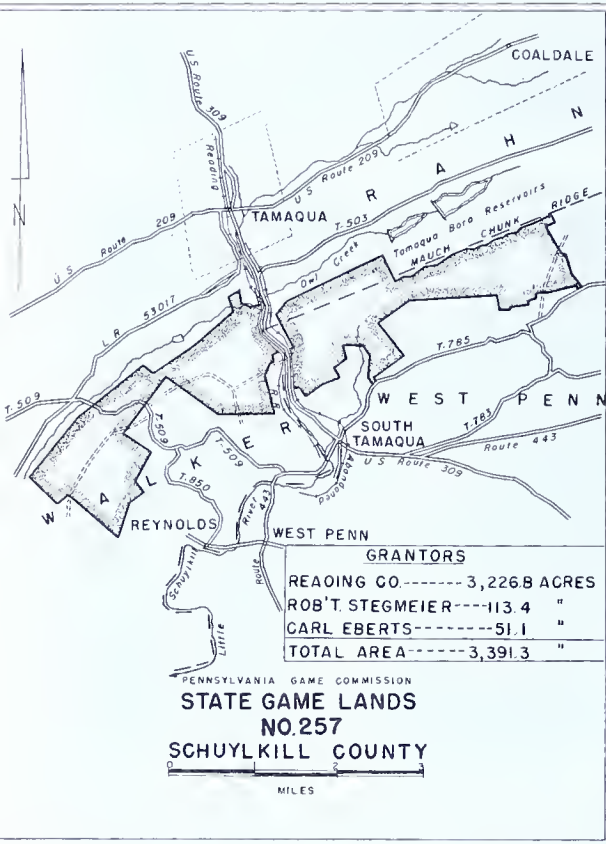


HEMLOCK GIRL SCOUTS, Cadette Troop 325, Mifflintown, receive Wildlife Conservation Award from DGP Bob Shaffer. Front: Kathy Jones, Cheryl Wilson, Brenda Singer, Leslie Ritter, Kelly Brown; back: Mrs. Dale Swartz, leader, Mrs. John Sheik, Kay Waples, Amy Shugarts, Karen Wagner, Wendy Abram, Carol Swartz. Sharon Kasner was absent.

New State Game Lands

The land area in Pennsylvania open to public hunting has been increased by 3391 acres through the addition of a new State Game Lands, number 257, in Schuylkill County. Located on part of Mauch Chunk Ridge, just south of Tamaqua, this area is within easy driving distance of Hazleton, Lehighton, Pottsville and other towns of good size. Route 309 bisects it, and it is crossed by a blacktop road to Tuscarora. These make for easy access by hunters.

The area is woodland, primarily oak, but with a good percentage of beech, birch and maple. Owl Creek and several small streams are found here. The region provides excellent deer and grouse hunting, and rabbits, squirrels and turkeys are present in good numbers, as well as trout in the streams.



TOM SCHERICH, Prosperity, RD 1, Washington County, receives his second Triple Trophy Award from DGP Jim Kazakavage. Scherich was the fourth hunter to twice win this award, given for bagging a bear, turkey and antlered deer in Pennsylvania during the same license year. Congratulations, Tom.



OSCAR BECKER, West Reading, receives the Wildlife Conservation Award from DGP Joseph Leiendecker during a meeting of the Berks County Federation of Sportsmen's Clubs.

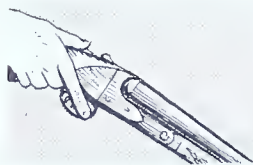


PGC Photo by Ralph Cady

DGP RON CLOUSER TALKS TO GROUP of interested youngsters during the Lycoming County Sportsmen School Days. Meetings such as this do a great deal for the cause of conservation, as they give sportsmen and Game Commission personnel a chance to acquaint today's youth with many aspects of the outdoors and get them started in the proper manner.

THE 14TH ANNUAL BUTLER COUNTY Junior Conservation School gave twenty-eight high school boys the chance to increase their knowledge of the outdoors. On hikes and field trips they studied soil conservation, farm ponds, tree planting, forest development, survival methods, predators, shooting, birds and animals, poisonous snakes, first aid, and numerous other items. The school was sponsored by the Butler County Sportsmen's Conservation Council.





HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



HUNTER SAFETY COORDINATORS from the United States and Canada at their 1969 workshop held in conjunction with the annual NRA meeting in Washington, D. C.

Safer Hunting for Pennsylvanians

A REPORT on Pennsylvania's hunter safety program, now in its first months of compulsory training, shows approximately 60,000 safe hunters were certified during the year, in preparation for the opening of the 1969 hunting season. The number of students certified over the past year has more than doubled. Over 227,000 students and instructors have completed hunter safety training since 1958, when the Pennsylvania Game Commission accepted the administration of a voluntary hunter safety program in cooperation with the National Rifle Association.

For anyone who may not have received the minimum four-hour hunter safety course, lack of hunter safety training or publicity has not been the reason. Pennsylvania sportsmen's

clubs, schools, civic organizations, and individual hunter safety instructors have made certain that everyone has had the opportunity to attend a hunter safety class. In many areas more than one class has been presented. There has been much publicity about the program. News releases, schedule of training posters, television and radio announcements, club announcements, GAME NEWS articles, hunter safety newsletters, and the digest of Pennsylvania's hunting and trapping regulations issued with each hunting license, have provided hunter safety information. No hunting license will be issued to any person under 16 years of age unless he presents either, (a) evidence that he has held a hunting license in Pennsylvania or another state in a prior year, or (b) a certificate of com-

petency showing that he has successfully completed a course of instruction in the safe handling of firearms and bows and arrows. A few had the misconception that the only requirement needed is to complete an examination at the time of purchasing a license.

At the fall meeting of the Pennsylvania Federation of Sportsmen's Clubs, representatives agreed that if we have a problem in hunter safety training, it is getting people to read the announcement of scheduled hunter safety classes. Added to this is a habit of many in waiting until the last minute to act. Surprisingly, distance has been no barrier or criticism. In fact, people have not objected to going anywhere within reason to complete hunter safety training. In addition, lost licenses and lost hunter safety certificates have been minimal.

If there is any criticism, it comes from the individual who has waited until the last minute, only to find that a course is not available. One hunter reneged on two training dates offered his boy, because of "previous commitments." One was a Scout meeting, which may be understandable, but the real excuse for the second missed program was that the father was going hunting. "He'll get in a class later, there will be more, won't there?" he asked. Other excuses follow the same line. At least the father was interested in attending a hunter safety class with his son, which is commendable. But not being willing to miss one day's hunting so his boy can enjoy a whole

season seems unreasonable to us.

What about the last-minute hunter who neglected to get hunter safety training? Classes during the hunting season were not plentiful. However, some are scheduled throughout the year. After the hunting season hunter safety program activity increases.

The Pennsylvania Federation of Sportsmen are very optimistic of Pennsylvania's hunter safety program and are proud of their efforts to reduce hunting accidents through hunter safety education. They have encouraged the youth to become interested in hunting and to participate with organized sportsmen activities. It would appear that the young hunter has received the message. Pennsylvania's junior license sales for 1968 reached a new high of 155,838, an increase of approximately 20,000 over the previous year.

For the past eight years, Pennsylvania has been selected as one of the top ten states in hunter safety. The relationship of interest and success is evident, with 217,000 young hunters completing hunter safety training to date. Despite this overwhelming success, preparations must be made now to train new hunters. With the growing interest in hunting, approximately 40,000 12- to 15-year-old hunters will be desiring to hunt for the first time each year. If you have a boy or a girl seeking hunter safety training, don't wait until next October. Contact your nearest sportsmen's club to take advantage of the first opportunity.

Don't Blend In—Blaze Out

For every 100 hunters who hunt in Pennsylvania, eight will have a red or green color deficiency. The wearing of fluorescent orange is your only guarantee that you will be conspicuous to these persons when in outdoor surroundings. Research indicates that fluorescent orange is the most acceptable color under all weather and lighting conditions, especially at dawn and dusk. Wear it.

Financial Report for the Fiscal Year

July 1, 1968, to June 30, 1969

By John M. Smith, Comptroller



THE RESULTS of operations of the Pennsylvania Game Commission for the fiscal year ended June 30, 1969, are presented for your information.

There are "earmarked funds" in the Game Fund as provided by the Game Law.

No less than \$1.25 from each resident hunter's license fee shall be spent for improving and maintaining natural wildlife habitat on land which is available for public hunting.

The sum of \$1 from the sale of each

resident and nonresident antlerless deer license shall be used for development and maintenance of deer food and cover on State Game Lands.

Cash Receipts for the Fiscal Year
\$10,782,541

Best Year on Record
7% Increase Over Prior Fiscal Year

The Project 70 Fund, a \$5,000,000 Land Acquisition Project, expiring at December 31, 1970, shows approximately 14,222 acres of land acquired at a cost of \$3,285,500 as of June 30, 1969.

Revenue Increases in Sales of Hunters' Licenses Over the Prior Fiscal Year

Resident	3%
Nonresident	24%
Archery	17%

The Commonwealth has many controls and safeguards to insure accurate records and accounts and the judicious expenditures from the Game Fund. Under the provisions of Article IV, Section 402 of the Commonwealth's Fiscal Code, the Auditor General is required to audit the records and accounts of all Commonwealth Departments, Boards and Commissions at least once a year. Other controls imposed on State Departments are deemed adequate to control all financial transactions and budget matters.

\$1,250 Daily Average Interest Received on Securities and Bank Deposits During the Fiscal Year

The formal audit of the accounts of the Game Commission for the fiscal year ended June 30, 1969, has not been completed but the accounts are in good order and no problems are anticipated.

SCHEDULE I, PART I

PENNSYLVANIA GAME COMMISSION STATEMENT OF REVENUE, EXPENDITURES AND CASH BALANCES FISCAL YEAR JULY 1, 1968, TO JUNE 30, 1969

REVENUE

Cash in State Treasury to Credit of "Game Fund" on July 1, 1968	\$ 7,473,050.45
Less: Unpaid Vouchers in Fiscal Offices as of June 30, 1968	NONE
Net Amount Available for Expenditures as of July 1, 1968	\$ 7,473,050.45
Receipts July 1, 1968, to June 30, 1969	
Resident Hunters' Licenses—Adult	\$4,377,712.73
Resident Hunters' Licenses—Junior	474,071.95
Nonresident Hunters' Licenses	2,246,217.66
Antlerless Deer Licenses	480,503.30
Archery Licenses	258,682.20
Nonresident Trapping Licenses	325.10
Special 3-Day Nonresident Regulated Shooting Grounds Licenses	6,241.75
Special Game Permits	33,176.00
Game Law Fines	248,760.55
Interest on Deposits	48,809.56
Interest on Securities	407,457.43
Sale of Skins and Guns	5,459.88
Sale of Unserviceable Property (Through Property and Supplies)	317.49
Rental of State Property	58,916.15
Sale of Wood Products	189,007.49
Federal Aid for Wildlife Restoration and Recreation	1,145,462.38
Sale of Publications	241,391.35
Ground Rentals and Royalties from Gas Wells	55,577.23
Miscellaneous	504,450.71
Total Receipts from All Sources	\$10,782,540.91
Total Funds Available During Fiscal Year 1968-1969	\$18,255,591.36

SCHEDULE I, PART II

CLASSIFICATION OF EXPENDITURES BY ORGANIZATIONAL UNITS

Classification of Expenditures	Executive Accounting Administration	Information and Education	Propagation	Research	Law Enforcement	Training School	Land Management	Totals
Salaries	\$371,108.42	\$274,333.15	\$214,266.36	\$113,963.88	\$ 924,005.81	\$100,777.64	\$ 453,468.82	\$2,451,924.08
Wages	53,009.30	10,366.82	270,282.55	350.50	226,953.14	13,948.46	1,367,533.69	1,942,444.46
Employee Benefits	22,283.76	11,289.99	22,087.11	5,633.31	82,580.77	7,015.43	100,521.21	251,411.58
Professional and Special Services	52,979.56	45,298.49	213.00	45.00	2,980.92	316.51	76,673.91	178,507.39
Printing	2,985.90	256,075.26	39.13	301.19	30,380.18	216.00	15,130.43	305,128.09
Advertising	16,572.04				48.55		4,757.87	21,378.46
Postage and Freight	73,887.11	33,408.03	50.31	30.79	76.25	3.00	136.74	107,592.23
Communications	16,685.95	3,649.89	3,910.80	2,697.65	28,121.18	402.85	12,352.06	67,820.36
Travel	19,797.45	25,320.08	14,103.10	16,666.14	184,448.18	24,987.31	80,363.10	365,685.36
Utilities and Fuel	11,061.81	381.71	11,241.12		6,912.87	1,786.02	6,520.83	37,904.36
Memberships, Dues and Subscriptions	748.68	64.50	46.00	9.00	63.00	45.78	79.18	1,056.14
Insurance, Surety and Fidelity Bonds	649.72	356.32	797.10		8,270.96	39.22	5,550.89	15,664.21
Motorized Equipment, Supplies and Repairs	6,513.84	2,623.85	12,079.80	1,257.86	46,183.35	1,813.53	166,715.67	237,187.90
Contracted Maintenance and Repairs	19,007.16	2,007.29	7,445.40	165.44	62,880.17	1,261.95	48,576.24	141,343.65
Rent of Real Estate	6,680.61	340.20	142.00		25,966.00		7,581.00	40,709.81
Rent of Equipment	19,454.77	100.00	6,407.40	407.20	793.00		109,018.51	136,180.88
Materials and Supplies	43,140.10	38,750.32	190,543.05	2,686.49	24,385.53	8,805.21	253,759.99	562,070.69
Wearing Apparel			200.10		123,046.44		187.79	123,434.33
Motor Vehicles and Farm Equipment	12,508.20	32,194.28	44,017.19	11,544.96	139,756.66	2,507.22	449,028.18	691,556.69
Furniture and Fixtures	5,024.76	1,992.30	307.80	279.85	7,870.77		1,745.34	17,220.82
Purchase of Game			106,224.24					106,224.24
Land Acquisitions							970,739.38	970,739.38
Buildings and Structures							108,211.97	108,211.97
Grants and Payments to Individuals					7,444.69			7,444.69
Grants to Institutions	2,000.00	9,000.00		23,466.47			3,000.00	37,466.47
Payments in Lieu of Taxes—Game Lands			667.55				207,984.47	208,652.02
Refunds	3,834.00							3,834.00
Total Expenditures by Game Commission	\$759,933.14	\$747,552.48	\$905,071.11	\$179,505.73	\$1,933,168.42	\$163,926.13	\$4,449,637.27	\$9,138,794.28
Plus:								
Expenditures by Other State Departments from Game Fund:								
Department of Revenue—Printing Hunting Licenses, Tags, and Miscellaneous Forms (*)							\$ 150,619.35	
Department of State—Game Commission's Contribution to Employees' Retirement System (*)							293,154.00	
Department of Labor and Industry—Commission's Share of Employees' Social Security (*)							2,430.00	
Department of Property and Supplies—Commission's Share of Medical-Hospital Payments (*)							4,457.10	
Department of Forests and Waters—Commission Payment in Lieu of Taxes Under Project 70							2,768.32	
TOTAL EXPENDITURES								\$ 453,428.77
Cash Balance June 30, 1969, Available for Expenditure During Fiscal Year 1969-70								\$9,592,223.05
Plus Unpaid Vouchers in Fiscal Offices as of June 30, 1969								\$8,663,368.31
Cash Balance in State Treasury to Credit of Game Fund at June 30, 1969 (Includes U. S. Treasury Notes in the Amount of \$7,680,745.54)								\$8,570.31
(*) These items are paid from the "Game Fund" by other state departments and are included to present a complete picture of "Game Fund" expenditures.								\$8,751,938.62**
(**) The stated balance does not include a \$50 Advancement Account drawn on the "Game Fund" by the Department of Revenue.								

SCHEDULE II

CONSOLIDATED STATEMENT OF FINANCIAL POSITION AS OF JUNE 30, 1969

Cash		\$1,071,193.08
Investments—U. S. Government Short-Term Securities		7,680,745.54
Total Cash and Investments		\$8,751,938.62
Less: Liabilities and Working Capital:		
Encumbrances—Game Commission	\$1,550,376.75	
Encumbrances—Other State Departments	1,721.17	
Reserve for Working Capital	2,500,000.00	
Reserve for Fire Loss	300,000.00	
Bills Remaining Unpaid in Treasury Department		
June 30, 1969	88,570.31	4,440,668.23
Net Balance Available for Expenditure During Fiscal Year 1969-70		<u>\$4,311,270.39</u>

EARMARKED FUNDS

RECEIPTS AND EXPENDITURES

ACT NO. 632, 1955

\$1.00 FUND

License Year	Antlerless Deer Licenses Sold	Minimum to be Expended	Expenditures	Expended Fiscal Year Ended	Over (+) or Under (—) Minimum
1957	334,683	\$334,683.00	\$104,218.85	1958	\$230,464.15—
1958	349,054	349,054.00	306,605.18	1959	42,448.82—
1959	369,409	369,409.00	370,647.80	1960	1,238.80+
1960	229,535	229,535.00	425,895.55	1961	196,360.55+
1961	210,840	210,840.00	361,196.19	1962	150,356.19+
1962	201,431	201,431.00	316,411.47	1963	114,980.47+
1963	204,068	204,068.00	305,583.16	1964	101,515.16+
1964	274,799	274,799.00	353,426.70	1965	78,627.70+
1965	261,283	261,283.00	311,111.10	1966	49,828.10+
1966	376,598	376,598.00	316,495.79	1967	60,102.21—
1967	444,913	444,913.00	615,295.16	1968	170,382.16+
1968	479,816	479,816.00	605,689.05	1969	125,873.05+

RECEIPTS AND EXPENDITURES

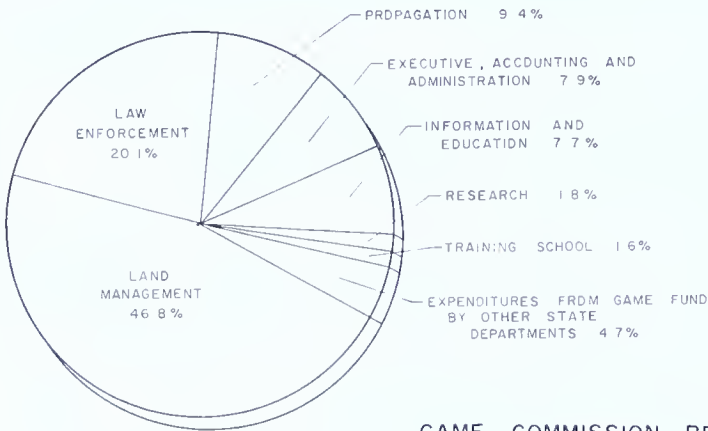
ACT NO. 271, 1949

\$1.25 FUND

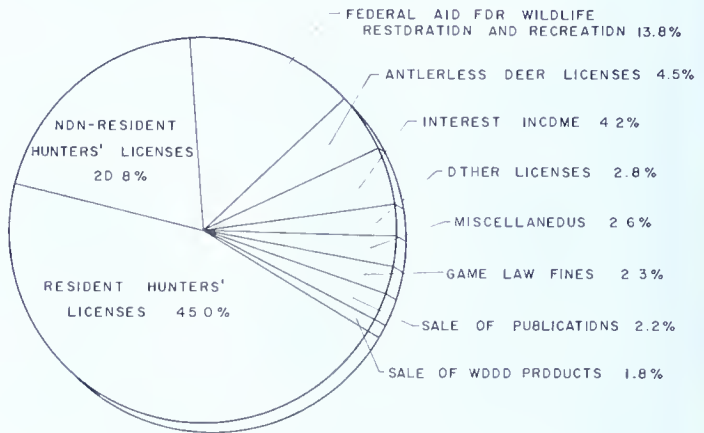
License Year	Resident Licenses Sold	Minimum to be Expended	Expenditures	Expended Fiscal Year Ended	Over (+) or Under (—) Minimum
1949	810,059	\$1,012,573.75	\$1,012,465.96 (A)	1950	\$ 107.79—
1950	801,948	1,002,435.00	1,266,856.18	1951	264,421.18+
1951	810,349	1,012,936.25	1,095,938.26	1952	83,002.01+
1952	830,147	1,037,683.75	1,163,287.09	1953	125,603.34+
1953	859,783	1,074,728.75	1,247,584.35	1954	172,855.60+
1954	869,286	1,086,607.50	1,215,543.03	1955	128,935.53+
1955	898,542	1,123,177.50	1,150,865.08	1956	27,687.58+
1956	902,540	1,128,175.00	1,280,927.58	1957	152,752.58+
1957	929,990	1,162,487.50	1,312,154.02	1958	149,666.52+
1958	943,340	1,179,175.00	1,261,098.24	1959	81,923.24+
1959	943,866	1,179,832.50	1,308,305.57	1960	128,473.07+
1960	949,365	1,186,706.25	1,894,854.64	1961	708,148.39+
1961	933,346	1,166,682.50	1,856,635.22	1962	689,952.72+
1962	926,976	1,158,720.00	1,599,871.34	1963	441,151.34+
1963	820,800	1,026,000.00	1,480,167.64	1964	454,167.64+
1964	868,972	1,086,215.00	1,630,906.74	1965	544,691.74+
1965	899,301	1,124,126.25	1,257,151.30	1966	133,025.05+
1966	931,239	1,164,048.75	1,677,374.98	1967	513,326.23+
1967	988,463	1,235,578.75	1,775,244.76	1968	550,244.76+
1968	1,005,000 (B)	1,256,250.00	1,817,643.41	1969	561,393.41+

(A) Expenditures from September 1, 1949 (Effective date of Act), to May 31, 1950.
 (B) Estimated License Sales.

GAME COMMISSION EXPENDITURES \$ 9,592,223.05



GAME COMMISSION REVENUE \$ 10,782,540.91



GAME COMMISSION REVENUE \$10,782,540.91

	DOLLARS
Resident Hunters' Licenses	\$ 4,851,784.68
Nonresident Hunters' Licenses	2,246,217.66
Federal Aid for Wildlife Restoration and Recreation	1,492,042.90*
Antlerless Deer Licenses	480,503.30
Interest Income	456,266.99
Other Licenses	298,425.05
Miscellaneous	278,140.94
Game Law Fines	248,760.55
Sale of Publications	241,391.35
Sale of Wood Products	189,007.49
	<u>\$10,782,540.91</u>

*Includes refund of \$346,580.52 from Land and Water Development Fund (Project 500) of expenditures originally made from Game Fund.

GAME COMMISSION EXPENDITURES \$9,592,223.05*

	DOLLARS
Land Management	\$ 4,449,637.27
Law Enforcement	1,933,168.42
Propagation	905,071.11
Executive, Accounting and Administration	759,933.14
Information and Education	747,552.48
Research	179,505.73
Training School	163,926.13
Expenditures from Game Fund by Other State Departments	453,428.77
	<u>\$ 9,592,223.05*</u>

*Includes unpaid vouchers of \$88,570.31 in Treasury Department.

SEE PENNSYLVANIA FIRST

By Les Rountree

THERE ARE A lot of very broad New Year's Resolutions that campers could promise to abide by during 1970. These would include, first of all, the promise to be considerate of other campers. But perhaps most important, those of us who are Pennsylvanians should make an effort this year to really take a look at our own state. We have a great state—or rather commonwealth, as the founding fathers chose to call it—and it deserves more than just traveling through to get to some seemingly more exotic destination.

Last fall I got the feeling that the Buckeyes from Ohio know more and care more about Pennsylvania than do many natives. Following a most enjoyable weekend at Presque Isle, my wife and I stopped off at Cook Forest State Park for a revisitation with the giant native white pines and hemlocks that still exist there. Every second car bore an Ohio license tag and confirmed my belief that Ohioans travel more than any other creatures in the world. At least they do seem to like Pennsylvania. They are everywhere! To digress for a moment . . . last year I was being guided back into a rather remote area of Sullivan County for a try at some woodcock. When I say rather remote I'm not kidding. We jeeped for about six miles and then hit out on foot for another two. When we got to the chosen spot we found a



THIS SCENE FROM Wayne County in northeastern Pennsylvania gives a good idea why Rountree suggests that we all should spend more time exploring our own state. There is so much to be seen that it's doubtful if anyone has enjoyed it all.



INTERIOR OF AN OLD hardware store in Tidioute, Warren County. Here, the prepackaged, supermarket approach has not yet penetrated — for which we're grateful.

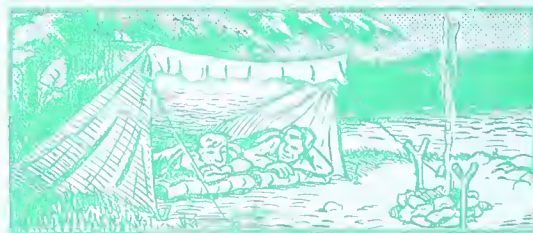
pair of hunters huddled over a small fire heating some coffee in one of those giant size GI cups. They had been hunting since daylight. They each had three birds and were tickled to death. The question, "Where are you guys from?" brought the reply, "Lorain, Ohio." It could just as easily been Ashtabula or Youngstown. This is not an isolated example. I have run into Ohioans in every nook and cranny of our beautiful state. They like it and they come back. How about you Keystoneers? Let's take a look at Pennsylvania this year.

For a starter, how about Cook Forest? It's just a short way north of Interstate 80 on Pennsylvania Route 36, getting off the four-laner at the Brookville exit. What's to see there? Why just about the biggest trees east of the Rockies. At one time, back before the 1900s, Pennsylvania was about half covered with huge white pine and hemlock forests. Many of these trees towered over 200 feet, and just cutting one down was a major operation. The cutting of the white pine began following the Civil War and by 1880 they were just about all gone. A prodigious

feat to say the least, but an accomplishment that leaves a lot of us wondering why they *all* had to be cut. The big hemlocks were spared on the first go-round but then it was discovered that a growing nation needed huge quantities of leather too. Dozens of tanneries were built to utilize the hemlock bark and its tannin byproduct and the giant trees were felled and stripped of their bark. The logs themselves were left on the ground to rot. Some of their decayed remains are still scattered across most of northern Pennsylvania. Some early conservation-minded citizens discovered that somehow the saws and axes had missed a small grove of pines and hemlocks in northern Clarion County. Thank goodness for us they were saved.

A state camping area is located there and many well-marked trails wind through the last of these evergreen giants. If you're going to visit it for the day only, park at the Log Cabin Inn and walk the Longfellow Trail. This particular trail winds through the biggest trees and I guarantee if you have any feeling at all for the outdoors you'll come back from this hike with a brand-new outlook.

As an interesting sidelight, a lesson in ecology is there at Cook's Forest too. It's quite obvious while strolling among these big trees why deer and most small game animals were not too plentiful during the days of the virgin timber. The high-crowned trees effectively kept all sunlight from reaching the forest floor; as a result there simply was no underbrush or food species. The cutting of the big conifer forests brought a profusion of hardwood brush that created food for many deer and eventually turned into the forests that we have today. The woodsman



who cut the trees back in the 1880s certainly did not know that his actions would affect game management for the next hundred years. Please don't interpret this to mean that I am in favor of more cutting. I certainly wish that more of the big trees had survived. I suppose what I'm trying to say is that more thought should be given to all actions affecting our environment in the future. The seemingly insignificant act of today might have catastrophic impact in the coming years.

Just North of Cook

Just a short distance north of Cook Forest lies the huge Allegheny National Forest. A dozen or more state, federal and private camp areas lie in this 470,000-acre tract which takes up a third of McKean County, a half of Warren, a fourth of Elk and practically all of Forest. If you're looking for some really remote wilderness to roam around in, you won't find a better spot than here. Several man-made lakes are here, including the three-year-old Kinzua Dam that offers some very interesting boat-in camping areas. You'll have to make advance reservations with the Corps of Engineers, but so far there still seems to be enough campsites for all who apply.

If water is a requirement for your campsite, the Pymatuning area is another interesting camping adventure. There is a good camping area near Linesville, which also happens to be the home of the Game Commission's Pymatuning Waterfowl Museum and Waterfowl Management area. An excellent collection of mounted waterfowl is on display here, and there is a profusion of live ducks and geese here during almost every month of the year.

The most famous lake country of Pennsylvania is, of course, the Pocono region. Long known to New York City vacationers, the Poconos are again better known to nonresidents than to traveling natives. There is, for my taste, a bit too much Coney Island atmosphere along the main highways,

but there are plenty of out-of-the-way places for a serious camper to avoid the smell of burning rubber and the glitter of flashing neon. Wayne County is especially appealing, since I always felt that the area north of Hawley looked more like the Catskills than the Catskills do themselves.

Jumping from the northeast to the southwest, another spectacular piece of real estate is the area around the Youghiogheny Reservoir Dam. The Yock gorge is rated as one of the toughest pieces of water for canoeists in the East, and they keep upsetting there trying to prove that it isn't so. If your likes lean toward just looking around, the Laurel Highland region, which is what this area is called, is fine too. The replica of Fort Ligonier, a colonial era landmark, is worth seeing at Ligonier in Westmoreland County.



WHITE PINES AND HEMLOCKS still grow big in Cook Forest, and a day spent among them will restore a human's perspective as nothing else can.

How about the Black Forest Country in Potter, Tioga, Cameron and Clinton Counties? There are places in that neck of the woods that you can walk for as much as 28 miles and never cut a road. Now it's appreciated that this doesn't seem much like wilderness to a Westerner, but when you consider that this kind of terrain exists no more than four hours away from the heaviest populated area of the United States . . . well, that's something. A good share of the Black Forest is included in State Forest Land so there's no problem in gaining access to it. Plenty of campgrounds, both state and private, are located there, and a note to the Pennsylvania Department of Forests and Waters will give you an up-to-date list. This is the heart of Pennsylvania big game country so be sure to take your camera. It's for sure that you'll see deer and you might get real lucky and spot a black bear.

Before I get too far along and somebody questions my previous statement about Cook Forest, there is another area that contains a sizable number of virgin hemlocks. And that's Hemlocks State Forest Natural Area in Perry County. Some of the big trees still exist there much as they do at Cook

Forest, but as I recall there are no white pines. Camping facilities are available at Colonel Denning State Park near Doubling Gap.

Historical Significance

For pure historical significance, it's hard to beat the famous landmarks that Pennsylvania offers. You can't pitch a tent or park a camper right beside all of them but I'll bet that the enterprising camper will find a state or private campground not too far away. For example, open any history book and you've got to find mention of places like Independence Hall, Valley Forge, Brandywine, Fort Duquesne, the Drake Well, Gettysburg and the Rockville Bridge. The Rockville Bridge! What in the world is that? I thought I was a well-traveled Pennsylvanian until I learned about this. Just north of Harrisburg, at Rockville of course, a railroad bridge that is touted as being the longest natural stone arched bridge in the world crosses the Susquehanna. The river is a mile wide there and I haven't met anyone yet who doubts this bridge's claim to fame.

Speaking of rivers, we have three fine ones in Pennsylvania. The Allegheny has its beginnings in our state and the Susquehanna and the Delaware don't miss starting out here by much. They are all beautiful rivers and I'll bet that most Pennsylvania natives haven't seen all three. The Delaware, incidentally, has the distinction of being the only major Eastern river that does not have a dam somewhere along its main course (so far). This was the river, you'll recall that carried George Washington and his ragtag army to the surprise attack that made this country possible.

I can't resist sticking in a word for the casual traveler. He may be a camper or he may not (you veteran already know this), but for gosh sakes try to cut cross-country once in awhile. It's a great temptation to stick to the Interstates and the four-laners, but the most interesting things are usually no



LAUREL CAVERNS in Somerset County are an example of a different approach to the "outdoors"—and perhaps bring a touch of envy for our caveman ancestors.



THIS OLD TRAIN STATION IN Delaware County is representative of sturdy buildings from an earlier era that still are worthy of note.

along these big rights-of-way. When you've got the time to spend, and most of us usually do when we're taking a trip, don't knock yourself out trying to set a new speed record. It may be impressive to tell your neighbor that you made it from Scranton to Pittsburgh in six hours flat but that's really all you did. I have to confess that I get caught up in the speed syndrome every so often and it takes a sudden jolt to get me back to sanity. So you get home an hour or so later, at least you had time to stop off and appreciate some of the truly spectacular sights of Pennsylvania.

I opened this column talking about Ohioans and I just can't resist closing with this little story. The editor tells me that over 10,000 copies of GAME NEWS go into that neighboring state

each month, so I hope I don't get us both into hot water. Anyway . . . last fall I was in the northcentral part of Pennsylvania attempting to find a grouse or two. I stopped in at a private campground in the hopes of taking a few pictures of fall camp setups for this column. There were plenty of campers all right, and as it turned out I got a number of shots that I could use. Just one thing wrong! It turned out that every vehicle in the pictures had the word OHIO printed on their license plates! In all fairness, there were some Pennsylvanians there too, as well as a smattering of New Yorkers and Jerseyites and one faraway soul from New Mexico. I suppose this is just my excuse for warning you resident readers if you do happen to see a picture in future issues showing a license plate that reads OHIO, we're not trying to kid anyone. Ohioans! We know that you know that we've got a great state. We're happy to have you. Come on, you Pennsylvanians, let's show those Buckeyes that we travel around our own state too!

Give

GAME NEWS

To a Friend . . .

Why Shoot in Winter?

By Keith C. Schuyler

Photos From the Author

MANY OF TODAY's archers might consider any questions about the advisability of shooting the bow in winter irrelevant.

Obviously, with well in excess of 100,000 licensed bowmen in Pennsylvania, many of them hunt in winter. A handful took their chance competing against the guns last month if they failed to score in the regular bow hunting deer season. Many more of those who still had their deer tags affixed to their licenses will have taken advantage of the late archery hunt beginning after Christmas.

But in addition to those hunting there will be thousands more who will shoot target throughout the winter. Thirty-seven shoots were scheduled across the state last month alone. Although a few were indoor target events, the vast majority were set well in advance with no consideration for the weather. Today, archery knows no season.

This comes as no surprise to those recently entered into the ranks of bowmen. Only those who have been w

archery over many years can really appreciate the changes which make it possible. There was a day when most archers hung up their bows at the first sign of winter weather. Outdoor shooting was practically unheard of, although there was some inside activity. Many bows were unreliable in cold weather. Arrows were poorly matched. Skills were not much better developed than tackle. There just were not sufficient reasons to suffer the hazards and inconvenience of cold weather shooting.

Weather No Hazard

Bow hunting changed all this. Field shooting was an outgrowth of the need to develop better skills for the hunting sport. Its popularity increased as sight shooting progressed. Field shooters had to move over to admit target shooters, and there has been a considerable overlap ever since. Today's archery tackle is so refined that weather presents no special hazard.

Probably the most obvious answer to why archers shoot in winter is simply because they want to. They want to because they know that such shooting is not only possible, but also practical. There is no reason that scores need suffer much simply because of temperature and terrain. Extremes in weather are certain to have an impact on results, but archers are happy to take their chances on the weather. They go merrily ahead in scheduling outside shoots on Sundays throughout the winter. Heavy snow or extremely low temperatures may cut down attendance, but it is seldom that any events are canceled purely because of the weather.

Aside from the simple enjoyment of shooting the bow, sufficient excuse in itself, there are nevertheless other



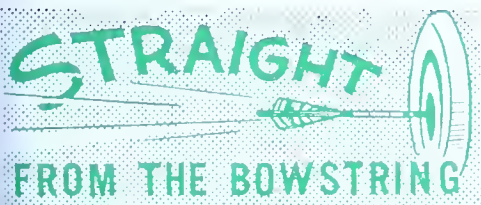
HUNTERS' ROUND targets are tricky; only the two center arrows here count as scores. Such targets are liked most by bare bow hunters rather than target shooters.

sound reasons to ignore the calendar. These reasons vary, depending upon whether the individual's preference is for target shooting or for hunting. With many, the preference may depend upon which type of shooting is available, since they will use any excuse to shoot the bow.

With weights creeping upward again among target shooters, it is necessary to shoot as much as possible to keep shooting arms in shape. Consequently, most welcome any opportunity to shoot. They can create their own backyard setup, but it is always more interesting to compete with others. Fellowship is a plus value.

Serious bow hunters know how important it is to be able to handle their heavy hunting bows in comfort. Those who hunt with a bow during the gunning season for big game, or plan to participate in the late archery season for deer, must be prepared. There is more to it than just being able to shoot the bow.

For example, clothing is much more a consideration than in the usually



mild weather of October. A bow hunter wants to be comfortable despite low temperatures, but he must be able to handle his tackle with the heavier clothing necessary. A bit of practice with a jacket which will keep him warm may prove that it is too bulky to permit unencumbered shooting. It may be advisable to wear a lighter jacket bolstered by additional underlayers of sweaters or warm shirts. A bracer, or arm guard, must be suitable to keep folds of a jacket clear of the bowstring even though its normal function of protecting the now well-padded arm from string slap is secondary.

A favorite finger tab may have to give way to a shooting glove which will protect the string hand from the cold. Such a substitution may require experimentation with several types of shooting gloves before one can be



WINTER SHOOTING often is done over snow, and this makes judging distance even more difficult than usual, as everything seems to run together.

found which will permit a smooth release. Wearing a glove on the bow hand may require some practice before the individual can get the required results in shooting.

Even headgear can become an important consideration. A warm cap may have a too-large bill which interferes with the string when the bow is at full draw.

Today's bows are much more able to adjust to temperature changes than some of the old offerings of hickory and other woods. Nevertheless, it is still considered advisable to flex a bow to full draw a number of times on a very cold morning. Whether of value or not, it has become a personal habit to store the bow planned for the next day's hunt where it can adjust to temperatures likely to be encountered during cold weather. At home, the bow is placed in the car the night before the hunt. When in camp, hang the bow outside on a wooden peg where it is protected from inclement weather but not from the temperature.

Despite the real or the potential value to be gained in some of the foregoing, it takes second place to the more obvious benefit of winter tournaments. They provide an opportunity to shoot the bow. It is formalized practice which can only help the archer regardless of his preferred direction in the sport of archery.

Keep Muscles in Trim

It is a case of keeping the muscles in trim, and eyesight comes in for a bit of conditioning. With vegetation at a minimum, attempting to judge distance can produce some startling surprises. Particularly when there is snow on the ground, the relatively uncluttered area between the shooter and his target requires a new perspective. Targets appear much closer than they do under conditions encountered during the warmer months. This is a problem to the sight shooter who merely checks the posted distance and sets his sight accordingly. The ba

bow shooter, particularly the really instinctive archer, will be more affected by the natural topography. Since his sighting is done on the basis of what is transmitted to the brain through his eyes to permit an educated guess, his eyes need the practice of adjusting to less familiar conditions.

The preceding is one reason that the hunter's round or the animal round is popular among those whose interest is primarily in hunting.

Greater Challenge

When hunters' round target faces are utilized, the challenge is much greater than with the regular field faces. Only the white aiming spot is clearly visible. Not until the archer reaches the target face after shooting can he be sure of his score. The faint outline of the scoring areas does not show up well from the shooting station. Distances may or may not be marked, according to preference. Sight shooters have little good to say about this round, but bare bow hopefuls generally favor shooting which more closely approximates actual hunting conditions.

This is particularly true when the option is taken to not post distances. Sight shooters, free-stylers, have their problems, and scores are usually much closer to those of the better bare-bow boys.

When animal faces are used in the regular animal round it provides the closest simulation to actual hunting that is possible with two-dimensional targets. In this archery game, a maximum of three arrows is shot to an end. If the first arrow hits within the outside scoring ring, the shooter takes its value for that particular target. There is an inside ring which provides a possible 20 for the target if the hit is made there on the first arrow. A hit inside with the second shaft scores 14, and an 8 is recorded if it takes the third arrow to register a hit. However, if that first hit comes in the outside scoring area, or ring, the score is correspondingly less. A hit there with the



THE HEAVY CLOTHING necessitated by winter weather is another complication. Keeping the bow string clear of the arm is now a problem.

first arrow earns 16; a second shot scores 10 and the third collects a mere 4. The challenging part of this round is to make that first arrow an inside hit and thereby gain the maximum of 20 points allowed for the target. It is usually the first arrow that scores in the actual hunting sport or the game takes off. Hence, it is appropriate that a lesser score be allowed if it takes the second or third arrow to register a hit.

Aside from the novelty of the animal round and its appropriateness to the winter season, there is a hunting lesson to be learned that is extremely vital. The average, experienced archer-hunter will come up with an average good score on the animal round. Yet, the next day he may go out and make a horrible miss on an easy shot at a deer. Aside from the extra aiming experience that the animal round provides, it *should* be a lesson on the advantages of concentration.

In the aforementioned hunter's round, the small white aiming spot on the target face has a special significance for the bow hunter if he will recognize it. Concentration on the spot is necessary since the scoring lines are purposely made to be indistinct or im-

possible to see at shooting distances. There is no visual distraction from the aiming spot, and the shooter knows that the closer his arrow is to the spot, the higher his score for that target will be. If he can just carry that spot visually with him on his next hunt, and if he can mentally blot out all else but the need to hit exactly on that spot, he has it made on his next shot at a deer.

Aside from the practical value that such shooting has for the archer who loves to hunt, the novelty of it is certain to create lively interest in winter activity on the local archery range. It takes a bit of effort to set in new stakes or move the old ones to eliminate the known distances, and it means buying a set of new faces, but the end result can be a big dividend for the club and its members.

Today, because it is practical to continue shooting throughout the year, no club can afford to let activity die during the cold months. But, it may be difficult to get the gang out to go through the same old motions of racking up a score on the conventional field targets.

Certainly the need of those who are primarily interested in shooting at conventional targets at conventional distances cannot be ignored. It has been this desire for excellence that has sustained archery during the lean years when it all but fell by the wayside. But since bow hunting is what has given archery its great leap forward, there is an even greater need to provide a means to develop greater skill in the field sport.

A bad hit on a target can produce no more than a grumble. However, a bad hit on a living creature has unpleasant implications that demand the development of as much shooting skill as possible in every bow hunter.

Although the emphasis here has been on organized activity, there are those who do not have archery ranges available to them. This does not deny such archers the opportunity to enjoy the same type of shooting with a couple target butts in the backyard or the nearest vacant lot. It is fun, it is good practice, and it is practical to shoot through the seasons with archery tackle that can take just as much punishment as the archer.



BLOOMSBURG ARCHERS WARM UP at practice bales before tackling the hunter round, a popular event with them.



RUGER SINGLE SHOT 243 with Weaver K12 scope and heavy-barreled 25-06 built on Texas Magnum action worked fine on Warren County chucks last September.

The Year Ahead

By Don Lewis

Photos by Helen Lewis

IT DIDN'T TAKE me long to get into a shooting position when I heard three quick shots below me. I stood motionless for several minutes, but nothing came my way. Ten minutes later, I saw a hunter coming toward me. I could tell by his walk that he was disgusted.

"Were you the one who just did the shooting?" I asked.

"Yeah, I'm the one. Did I ever miss three perfect shots. The buck wasn't even running, and it wasn't more than 75 yards from me. I guess this rifle isn't suited for me."

"That's too bad," I replied. "But I wouldn't let it get me down. I've hunted all buck season, and I haven't fired a shot."

"Missin' this buck is only part of it,"

he informed me. "I missed two others earlier in the season. The hard part of it is, not one was a difficult shot. In fact, two were just walking, and the farthest was no more than 100 yards."

"Say, you have had a pretty hectic year. What happened that you failed to connect?"

"Well, I'm one of these fellows who always intends to buy a new rifle. Every year, after one of these let-downs, I decide it's time to get my own rifle. But I never have. You see, I have five sons and there are plenty of rifles to choose from. But this year I mean business—and I mean business."

"You mean you've had other years like this one?" I asked, somewhat surprised.



M77 RUGER 308 topped with Leupold variable scope put five shots in a quarter-size group at 100 yards for Lewis—excellent accuracy for a powerful, lightweight hunting rifle.

"You hit the nail smack on the head. I've missed—get this now—nine deer in five years. And every time it was with a borrowed rifle. One year it was a 30-30, another time, a 270, a couple I can't recall, and this year it's a 308. All good rifles understand, but rifles that I was not too familiar with. Believe me, this is the last year I'll be usin' a borrowed rifle. Next year I'll have my own."

"I couldn't offer any better advice, my friend. I believe every hunter should own his rifle and get plenty of practice. Borrowing a \$300 outfit may make you look good, but trying to use it properly could be another story. My advice to you would be to get a model and caliber you like and practice whenever you can. Then, chances are, you won't have another disappointing year."

We talked until long after dark when we got back to the highway, and we discussed various rifles in trying to decide which one would be best for him. He knew the fundamentals in

picking the right rifle, and I'm sure that he did choose one suited for his type of hunting. I did the best I could to help him, but there is no stock answer to what is the best deer rifle.

Several seasons ago, I met a hunter who had missed a deer due to the fact that he was left-handed and his rifle was a right-handed bolt action. He had bought the rifle new thinking he could overcome the handicap, but, the excitement of trying to get off a second shot, he jammed the rifle. A different type of action or a left-handed bolt would have been a much better buy.

Get What You Like

I think a hunter should choose a rifle he enjoys shooting more than just a fancy make or a powerful caliber. Getting right down to facts soon proves that it isn't the lack of power that causes problems; it's the little things. It's not just a figment of the imagination when we talk of the type of rifle to buy. Some hunters adapt to certain types, and power alone should not overshadow this. I received a letter from a GAME NEWS reader who had taken 10 deer and one bear. His rifle was a 243. This doesn't make the 243 the perfect deer or bear rifle, but it does lend credence to my theory that a hunter who knows his outfit will be more likely to be successful. There's no argument against the well-placed bullet theory, and the hunter who is familiar with his rifle will always do better than the man who depends solely on power.

In this modern era of speed and power, many of the old-timers such as the 257 Roberts, 250-300 Savage, and some of the older 30 calibers are being relegated to the ranks of the un-



wanted. More modern names have replaced them. I'm not one to hang onto the past, nor do I want to revive these rifles and make them popular again, but I do want to make clear that all of these rifles were adequate for Pennsylvania's big game. However, modern rifles are not pantywaists. Some might lack the handwork and clean machining of yesterday's rifles, but they can be depended upon to deliver the goods.

Occasionally, you'll hear the story about today's rifles not shooting like the ones in Granddad's time. This is pure hokum. Today's rifles far surpass the accuracy needs of the big game hunter. In general, they're considerably more accurate than the rifles of a generation ago.

Big Game Rifle Accuracy

Let's give some thought to what accuracy in the big game rifle is. If you're thinking along the lines that your 7mm Magnum or 308 will slap 10 shots into an inch or less at 100 yards, you're off on the wrong foot. The inch-group talk has gained so much publicity that nearly everyone today thinks that all rifles shoot this well. Believe me, it just isn't so. Few big game rifles will do it—and there's no need for them to shoot this well. I've shot some big game rifles that produced the magical inch, but for every one that will, there are hundreds that won't. My experience indicates that the average factory produced big game rifle will stay under three inches at 100 yards. Many of them will go to two inches, and this is pretty fair shooting. The big game rifle doesn't have to have the pinpoint accuracy of the chuck rifle. A big game animal offers a good bit more target than a chuck or crow. Big game hunting is done under more difficult conditions than the slow, precise varmint hunting. Varmint rifles are heavy, cumbersome outfits, not suited for carrying. It all boils down to the fact that you can't have your cake and eat it too. If you want a lightweight powerful

rifle that comes in a variety of actions and calibers, you'll have to sacrifice some on the accuracy.

I would not worry too much over how accurate my new rifle would be; I'd spend most of my time thinking about the kind I wanted. Many a hunter has gone astray on this decision. I just can't use a lever action rifle, yet I



ACTUAL SIZE GROUP fired with **GAME NEWS** Editor Bob Bell's 284 Mauser at 100 yards. Load was the 160-gr. Speer spitzer bullet, 57 gr. 4831, Remington 9½M primers. Velocity about 2900 fps.

know several hunters who wouldn't have anything else. I can work a pump action faster than any other type, but I sacrifice this one aspect because I like a bolt action. Probably I'm partial to the bolt since most of my chuck outfits are of that design. If you have a favorite type, I wouldn't change. Stick with what you like and what you can use.

The best approach is to visit a few gun stores and actually handle a number of rifles. Remember, each make and model has some distinct features that won't be found in another model. Not all stocks are the same length; one trigger pull may be lighter; the weight varies from model to model. These are some of the little things I mentioned earlier. The safety on a rifle has been taken for granted for years. Every hunter knows why it's on

a rifle, but few ever give much thought where they would like to have it. You can get on to anything in time, but the location of the safety may spell the difference between success and failure. Take the double-barrel shotgunner. He could operate a safety on the tang much quicker than one on the trigger guard.

Some Fit Perfectly

I'm sure that somewhere along the line you've picked up a rifle that just fit you perfectly. You had the feeling that the rifle had been custom made for you. Everything from the trigger to the cheekpiece was just the way you always had wanted it. This is what I'm trying to put across—that you shouldn't be primarily concerned about the make, caliber, or price, but that you should find something that has that custom-made feeling. I don't want to go out on the limb too far, but every rifle is different. For instance, I have two Model 77 Rugers in the 308 caliber. The rifles were produced over the same specifications, but each rifle handles just a little bit dif-

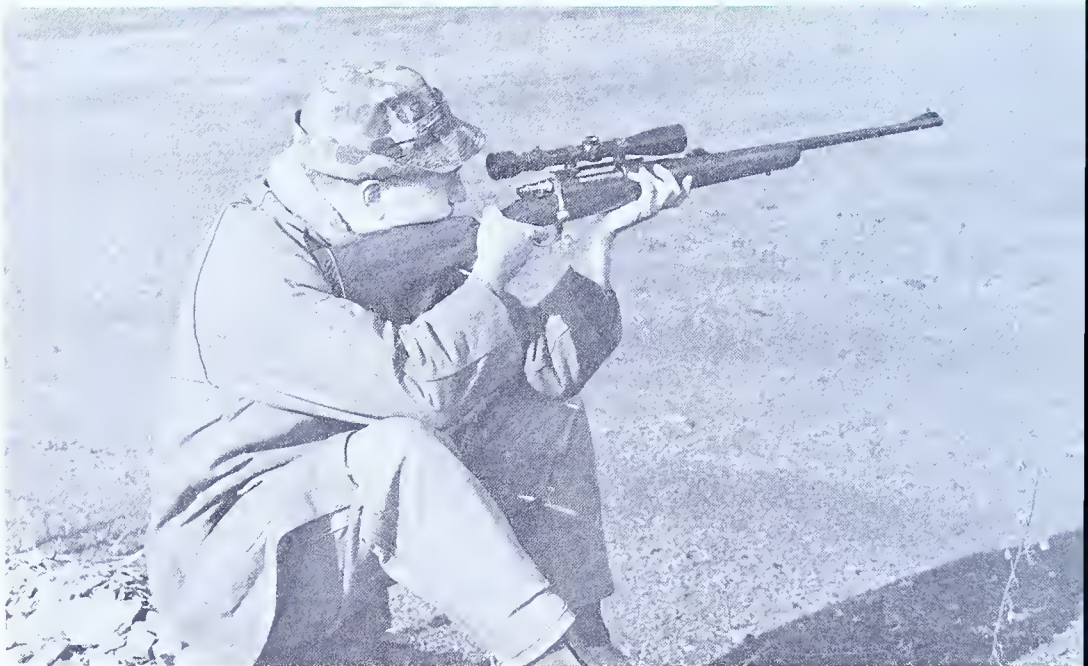
ferently. A number of hunters have handled each rifle, and invariably one or the other appeals to each person. In fact, I happen to like the one better than the other.

I think that most good hunters and riflemen will agree that the rifle should be suited for the man using it. An older hunter who slips along in the little valleys and ravines would have little need for a magnum. A 30-30 or 32 Special carbine would be more than adequate. The rights-of-way hunter could benefit from the '06, the 270, or even a 300 Magnum, while the old 35 Remington could be the very rifle for close range shooting.

Excellent lever guns are available from Winchester, Marlin and Savage in such modern calibers as 243, 283, 308 and 444 Magnum. The selection is more limited in the slide action, and only Remington offers a choice. However, the M760 Remington is offered in the popular 30-06 caliber, a first choice for the man who hunts both in the woods, where ranges are short, and in open country also.

In bolt guns, the Winchester Mod-

TEST SHOOTING BEFORE SEASON PROVED that Browning 7mm Magnum with Redfield 3-9x scope was a top choice for long-range deer hunting.



70 has been a favorite for decades, while in recent years the Remington Model 700, which replaced their older Models 722 and 721, has earned a wide following. Both are available in a wide range of calibers, from varmint loads up to magnums. The Mossberg M800, made in 243 and 308, is comparatively new. For Pennsylvania use, a medium power cartridge such as the 270, 308 or 30-06 is probably best choice. The Savage M110 is another excellent bolt gun chambered for the popular calibers. It has for years been made in a left-hand version too. Remington recently added a left-hand option to their M788 bolt gun in calibers 6mm and 308, so the southpaws now have a choice. Numerous other bolt models are available. Some of these are of special design and manufacture, such as the Weatherby, Champlin, and Ranger Arms, while others are built on the commercial Mauser action for companies that market them under their own names.

Winchester's 770 and 670 models come in a number of calibers suited for big game hunting. They also perform nicely. The 788 Remington, 88 Winchester, and 99C Savage offer the clip magazine for the hunter who likes to move from spot to spot by car and unloads often.

M94 Always Popular

I guess the 94 Winchester will always be popular. I suggested in the December, 1968, issue of GAME NEWS that the 94 can be scoped successfully on either the right or left side of the action. I've done a number of them, but there is one drawback to look for when mounting on the right side. There could be an ejection problem. Occasionally, a rifle will throw the empties slightly to the right instead of straight up. Your gunsmith can determine this by clamping the scope on the right side and ejecting several empty cases.

Two American-made rifles that should grow in popularity are the Rugers. The No. 1 Model is a single



SOME RIFLES SUITABLE for Pennsylvania deer and bear hunting: Browning 7mm Magnum utilizing Mauser action, Redfield scope; M88 Winchester lever action 308 with Leupold 2-7x variable scope; M77 Ruger 308, a trim bolt action; and Remington deluxe M760 Gamemaster in 30-06 caliber. Leupold 3-9x scopes on both Ruger and Remington. Lewis advises getting new rifles well in advance of season so familiarity can be gained through use on targets.

shot built on a very strong drop lever action. It covers the caliber field from the 222 to the magnums. It's a little on the expensive side, but it's a real piece of craftsmanship. The Model 77 is a bolt action rifle on the short stroke theory. You can choose one of the 6mm's, 284, 308 or 350 Remington Magnum here. The two I fired stayed below two inches at 100 yards. The single shot should be appealing to the hunter who likes a challenge and is willing to wait out his shot. The M77 ranks with the very best bolt guns on the market today, while the single shot is in a class by itself.

There's no need to list every rifle on the market. After all, there are plenty of makes, models, and calibers to choose from. The problem is to get

the one suited for you. And once you invest in a new rifle, shoot in as much as possible. It's the handling and the practice shooting that really makes you good. If you don't like recoil, stay away from the more powerful calibers. A 338 Magnum has a place in the realm of hunting, but I doubt if it's needed for the kind of hunting we do in Pennsylvania. Several 5-shot groups from one of these powerhouses can make an average hunter lose even the strongest desire to shoot.

You may think that there's plenty of time to make up your mind, but unless you act now, chances are you'll be carrying another borrowed rifle next year. Buying a new rifle should always be an important decision. Looking for just a bargain or some new gimmick will lead you down the wrong road. The rifle and you will be together for years; in fact, the rifle is the hunter's best friend. My advice is to choose your friend carefully . . . you'll have him a long time.

Raw Fur Sales Top \$700,000

During the 1968-1969 trapping season, the Pennsylvania Game Commission recently announced, a total of 455,464 pelts from Pennsylvania-caught animals were bought by licensed raw fur dealers. Total value of these was \$714,928.50. Furs shipped or transported out of state by the trapper are not included in this tabulation. The breakdown is: 381,757 muskrat pelts, average price \$1.00, total \$407,875.03; 1426 skunks, 71 cents, \$1015.20; 3401 minks, \$7.67, \$26,106.50; 9893 opossums, 54 cents, \$5356.25; 3994 beavers, \$19.62, \$78,364.85; 45,111 raccoons, \$3.29, \$148,625.99; 580 weasels, 46 cents, \$265.25; 6129 red foxes, \$6.21, \$38,096.81; 3148 gray foxes, \$2.93, \$9210.62; two wildcats, \$6, \$12.

Looking Backward . . .

"Jerry Greening a noted hunter of Pike county, Pa., who for fifty years has been making war upon the wild animals of the section between the Susquehanna and Delaware Rivers, has at last fallen a victim. He left his cabin on the 22d of November, and a friend, who was also a hunter, ascertaining that he had not returned, two days afterwards set out on a hunt for him, with two or three neighbors. The dogs were put on the scent, and in the center of a swamp, on a little knoll covered with spruce trees, were found the bodies of four large bears, with bloody gashes upon their hides. In the midst was the disjointed skeleton of a man, which they soon identified as that of the old hunter. . . . His funeral took place on Sunday. . . . The rude coffin was deposited in a grave on the summit of a hill overlooking a beautiful mountain landscape. A slab of slate marks the spot, with the following inscription scrawled in rude letters: 'Here lays the bones of Jerry Greening. He was eat by Bears in the Big Swamp on the 23 day of November, 1880. His soul [sic] is in Heaven. . . .' His hut was filled with trophies of the chase. There were 384 bear tails, 224 fox ears, 348 wild-cat paws and 122 rattlesnake fangs. . . ." ["Shippensburg News," December 18, 1880.]

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IN THIS ISSUE

FEATURES

- Pennsylvania Wolves
 By Wilbert Nathan Savage
 Ghost Town . . . and Hunter's Paradise
 By Ted Fenstermacher
 Give Your Wife a Break
 By Robert F. Cubbins
 Caves of Pennsylvania
 By George F. Jackson
 A Choice
 By Keith C. Schuyler
 The Pennsylvania Game Commission
 By Lowell E. Bittner
 Snow
 By Wilbert Nathan Savage

NEWS

- Field Notes
 Conservation News
 Hunter Safety Education
 By John C. Behel

COLUMNS

- Why Not Stay Warm? (Camping)
 By Les Rountree
 First Edition (Archery)
 By Keith C. Schuyler
 The Problem Gun (Guns)
 By Don Lewis

COVER PAINTING BY CHUCK RIPPER

Wolves no longer roam Pennsylvania's mountains, and many of us are slightly saddened by this. Civilization isn't much get in return for their absence. Alone among the animals, a wolf has a mystery, an aura, that stirs a man, reaches down inside and twists the blood memory that goes before his memory. Perhaps Aldo Leopold understood best when he wrote: "Only a mountain has lived long enough to listen objectively to the howl of a wolf." I'd give a lot to hear the cry of a hunting wolf in winter. Wouldn't you?

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Goodnight, Chet . . .

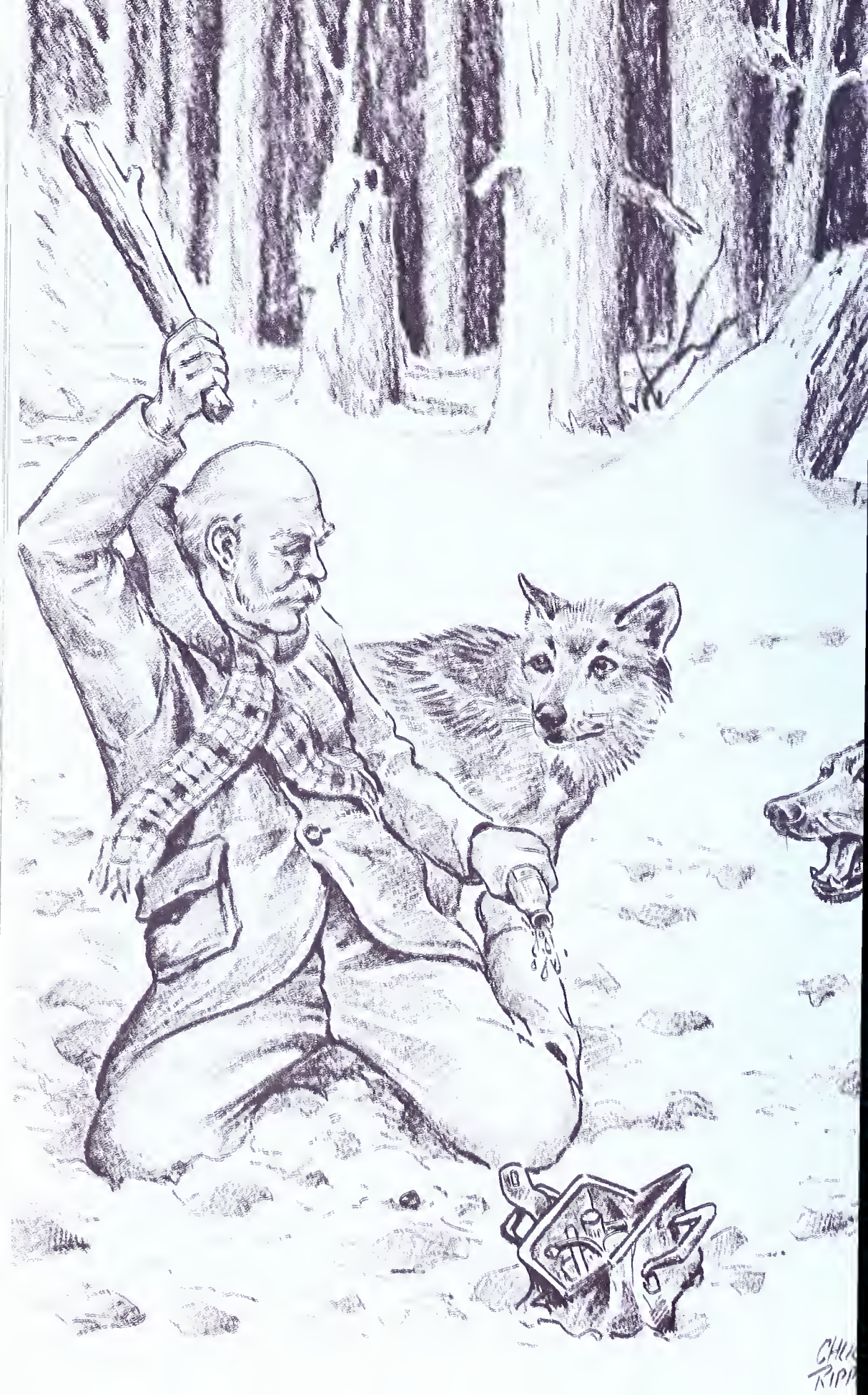
A SHORT TIME AGO, as this is written, a gentleman named Spiro Agnew took on quite a chore for himself. He criticized, in rather clearcut terms, the objectivity of the news media of this country, particularly the newspapers and television. Now, if you or I had done this, there wouldn't have been a ripple of response. We have no special influence on the populace; few others, percentagewise, even know we're alive. So any such observations by us would have been ignored by the gentlemen who report, and/or make, the news. However, Mr. Agnew happens to be a person of some importance. Of the 200 million-plus citizens of this nation, he is, as our Vice-President, the Number Two man. His comments are newsworthy.

This created a most interesting situation. Every newspaper in the country, every television and radio station, every political columnist and editorial writer, immediately felt himself maligned, put upon, criticized, the exact extent depending mostly upon the seriousness with which he took himself. (And, believe me, few people anywhere take themselves more seriously than these self-appointed pundits!) Their reaction was immediate, vocal and visual—even though every comment, every word of defense, called attention to their own shortcomings. (An unusually embarrassing situation, to say the least, when you have to publicize your own alleged faults. There was something pathetic about it, everything considered.)

The news media's rallying cry was "Censorship!" A good choice, even if an obvious one, as most of us are wholeheartedly against such interference, having complete faith in the public's "right to know." Of course, Mr. Agnew's implication that too often the public was being given the opportunity to know only what a given publisher or broadcaster wanted him to know—this was the shoe that pinched. There was no lack of news, obviously—merely a possible lack of objectivity.

This whole thing might seem a good ways out of GAME NEWS' sphere of interest, but we don't believe it is. It's mentioned here because there is a direct confirmation of the Vice-President's criticism in the continuing quest for restrictive firearms legislation, and this concerns all hunters directly. Almost all of the editorial comment on this subject in large city newspapers, the "women's" magazines, and on television has been anti-gun. That anything can be *that* bad is literally incredible. But just where is the objectivity in this case? Almost the only time a pro-gun attitude is given space, except in occasional rebuttal letters to the editor, is when a given paper or station has on its staff a knowledgeable outdoor writer who through personal interest is aware of the other side of the argument. For these we are truly grateful.

It's interesting to hear the big fellows hollering "censorship" and demanding their right to free speech, as guaranteed in the First Amendment to the Constitution. Well, we too oppose censorship in all its forms and will fight for the rights guaranteed by that First Amendment—their rights, your rights, our rights. We will also go on fighting for the rights guaranteed by the Second Amendment—as we've done for years without the help of the general news media. But we can't help wondering where they've been in this battle, and what makes one section of the Constitution more important to them than another. Their absence here is more than pathetic. It's a bit tragic. And goodnight to you, too, David, Dan, Walter. . . —*Bob Bell*



Pennsylvania Wolves

By Wilbert Nathan Savage

THE FIERCE WINTER storm brewed its fury in a westerly cauldron, then sheared across the Alleghenies and swerved northward to buffet vast expanses of the upper Appalachian wilds.

When the velocity of the storm had exhausted itself, the temperature started to drop. Creek ice formed as if by magic, and the pistol-shot sounds of frost-riven trees announced a chilling plunge to 20 degrees below zero. After night settled on the frigid land, another vibrant sound fitted itself into the trackless territory. It was alive, pulse-quickenning, perhaps the most terrifying natural sound of the wilderness—the mingling voices of marauding wolves. This was the kind of bitter weather that multiplied their hunger pangs. United as one, they were untiring, ill-tempered, and bold to the point of recklessness.

Within the walls of a small frontier cabin, a sturdy settler, his wife and their children heard the beasts, and a hush fell over the simple abode. In a crude log stable nearby, two oxen munching fodder also heard the high-pitched howls and huddled closer together, trembling.

On that long-ago night, the song of the hunting pack was being duplicated in one degree or another across thousands of square miles in Penn's Wilderness. During those early times wolves were astir in numbers over the entire limits of the state, in every direction on the compass face, at every elevation, and very likely in some inaccessible spots where few if any white men had managed to leave footprints.

Wolves were by far the most destructive and dangerous animals inhabiting Keystone Territory in pioneer

days. When in packs of four or more, and desperate from hunger, they were even known in various documented instances to have attacked human beings. Sheep and calves, however, were their main targets, and C. W. Dickinson, a McKean County resident, gave a responsible report in 1901 of regional wolves descending on one locality and engaging in a sheep-killing spree that left at least 150 of the animals dead within a short period of time. Mr. Dickinson also told of having seen where wolves had killed deer on many occasions.

Confirmed Case

Another fully confirmed case against the wolf is recorded as follows: In 1874, Levi Kissinger of Roaring Branch, Tioga County, killed a rogue wolf during one of the fall's first tracking snows. As related by Mr. Kissinger, "The wolf had killed, in the neighborhood of Jackson Township, about 50 to 60 sheep before I shot him on Laurel Hill, between Tim Gray's and Red Ross's. I received no bounty; they told me there was none. The skin I gave to Preacher King for credit of two dollars on his salary." (According to material published by the Pennsylvania Historical and Museum Commission in 1950 concerning rural life in frontier days, "... a large wolf pack would destroy a whole flock of sheep in one night; and a mature gray wolf could carry a lamb for miles, slung on his back. . . .")

No creature existed in primitive Pennsylvania that was shunned, suspected, cursed, harried, studied, feared, plotted against, hated—and sometimes respected—with greater intensity than the gray wolf. Known also as the timber wolf and the Appa-

lachian wolf, the wily animal not only killed thousands of sheep and calves prized by the state's first struggling farmers and stockmen, but he also nabbed wide-ranging pigs and poultry. Fortunately, for the protection of certain livestock there was, besides the gun and the trap, one other device that afforded a reasonably dependable safeguard: the bell. Simple as its power of dissuasion was, early settlers soon learned that very rarely would a wolf attack any domestic animal that could be fitted with a bell. So it came about, naturally, that bells became scarce and valuable in frontierland, and to steal a bell in those perilous times was a major offense.

For reasons that apparently go begging for a proven explanation, wolves seem to have possessed a spooky penchant for following horses and colts. History is replete with tales of wolves pursuing horses as they drew sleds or wheeled vehicles occupied by human beings. This example circumstance is but one of many on record: "Mr. Joseph McCully and wife were on their way to the grist mill near Janesville, Clearfield County, during the winter of 1858. A colt was following the sled and a wolf came boldly in pursuit. It followed within a mile of the settlement. Mr. McCully aroused a man named Abraham Neveling who took the wolf's track at daybreak and in a few hours sighted and shot him."

Similar Incident

A similar incident was related by a man named Cleveland after he had driven a team of unbroken colts from Fox Centre, Sullivan County, to Canton, Bradford County, in the fall of 1877.

Another horses-and-wolves story that reached print nearly 70 years ago is probably exaggerated, though it was contained in a dispatch to the Philadelphia *North American* dated February 28, 1901. The item told of three starving wolves that came down from the hills to attack a team of horses in the town of Rockwood, Somerset

County. The incident was supposed to have taken place in front of Miller's general store. Two of the wolves were killed on the spot, one escaped. But when a reliable historian made an attempt to obtain positive verification of the story, he was able to determine only that the tale was at that time in active circulation in the Rockwood-New Lexington-Somerset area.

Occasionally Attacked Humans

While valid out-of-the-past instances of wolves actually pursuing and attacking early settlers in Pennsylvania perhaps were not as common as certain types of folklore would lead us to believe, such frightening experiences most assuredly did occur. Here is one story taken from a documented report by Dr. Thomas G. Thornton.

In Tomhickon Valley, between Catwissa and Hazleton, wolves were abundant about the year 1845. When Dr. Thornton's father, who also was a doctor, set out in the wilderness to visit a patient, he became lost. As the doctor sought to regain his bearing, the cry of a wolf echoed through the winter-locked forest. Then another. And another. According to carefully sifted information published some years ago, the skulking marauders alternately kept out of sight and ventured near enough to menace the weary being they had chosen to besiege.

Suddenly, then, the hungry animals bounded from nearby cover and started to methodically circle the doctor. Within a short time they were snapping at his legs as he tried in vain to face all members of the pack at the same time. He swung a club with whistling force and was successful in striking several of the snarling beasts. It was alarmingly clear, however, that he would be able to ward off the animals only a little while longer. Then a thought struck the beleaguered physician.

In his bag he carried a bottle of ammonia. Wielding his club as best he could with one hand, he opened



HISTORY IS REPLETE with tales of wolves pursuing horses as they drew sleds or wheeled vehicles occupied by human beings.

satchel and doused some of the ammonia on his leggings. Then he purposely allowed a wolf to approach and snap at his legs. The puzzled creature instantly drew back, too surprised and confused to do more than look through watering eyes at the quarry which had turned without warning into a malodorous disappointment. Instinctively, the remaining wolves got the message that something had gone awry. The mysterious and invisible character of his desperate but clever defense got the better of wild determination to carry out the onslaught, and the doctor made his way to safety.

Here is another bit of evidence that hunger-driven wolves did not hesitate to attack mankind.

"Many men," says Henry B. Plumb in *The History of Hanover Township & Wyoming Valley*, "have been over-

taken at night by wolves—sometimes when they were a considerable distance from home; at other times only a short distance. They have been forced to climb trees to get out of the reach of wolves and sit there all night. As the morning sun began to give a little light the wolves would sneak off one by one until they were all gone and the shivering traveller could come down and go home. . . ."

The bad behavior of wolves not only brought grudge reprisals from farm owners eager to settle a particular score, but added to this relentless pressure was the stimulus of liberal bounties which spurred hunters and trappers into a competitive search for wolves of every age and size. Gradually the *Homo sapiens* siege guns started to yield unmistakable evidence that wolfdom's population was being

seriously decimated. Soon these and other counties were to go on record with reports such as these:

Potter County . . . "Practically extinct. I saw many wolves as late as 1857 on the headwaters of Pine Creek and the Sinnemahoning. The last I knew killed here was about 1875."—Austin, 1900. "The county records for 1890 show that a wolf was paid for in Potter County that year by the county treasurer." — *Warren's Poultry Book*, page 690.

Nest of Young Wolves

McKean County . . . "This county used to pay a bounty on wolves: \$25 on each grown wolf and \$12 on each whelp. In June, 1868, two men, Leroy Lyman of Potter County and J. W. Stark of Smethport, found a den or nest of young wolves on Cole Creek in this county. They got three whelps and later the mother of them. On the 18th day of May, 1869, I found a nest of wolves on the south fork of the west branch of Potato Creek. I got five young ones and three weeks later

THE WOLF IN Pennsylvania was a true member of the dog family, with the prevailing color being gray. He was a powerful animal with outstanding endurance.



caught both of the old ones. In October, 1870, I caught another one. In May, 1872, I found a nest where I got seven whelps and caught an old one, but he left a hind foot in my trap and made good his escape."—C. W. Dickerson, 1901.

Mifflin County . . . "In relation to wolves in Mifflin County, it was stated by one of our hunting party that the beds of 13 wolves had been seen in the fall of 1898 by some lumbermen. I gave no credence to the report and probably would not have thought of it again had I not seen a statement in a newspaper giving an account of wolves attacking a schoolteacher in one of the adjoining counties."—Cleveland, 1901.

Somerset County . . . "John Queer, age 86, killed a wolf February 5th, 1897. The animal was shot in a trap and appeared quite ferocious. Too heavy to carry, Queer brought the wolf home on a horse. He sold the hide for \$3 and got \$10 premium. Charles Van Near bought the pelt and had it tanned. The wolf measured six feet and two inches from the tip of his tail to the point of his nose, without stretching. A man named John L. Boyd was instrumental in establishing the accuracy of these facts."—Rhoads, 1903.

Luzerne County . . . "From 1808 to 1820 Luzerne County paid \$2,872 in \$5 bounties for wolf scalps. As many as 273 wolves were killed in one year in the county." Some 40 years later this contrasting bit of history was written: ". . . A man named George Crockett occasionally brings a wolf scalp to Wilkesbarre, for which the county treasurer pays him \$25."—*Annals of Luzerne County*, Pearce, 1860.

The Last Wolf . . .

Forest County . . . "The last wolf known to me was killed in a big wind-fall on Hemlock Creek about 1855, but S. M. Henry, county treasurer, says the last one killed in the county was taken by Emanuel Dobson in Jenks Township in 1884."—Irwin.

Wayne County . . . "A wolf was killed at Prompton, central Wayne County, near Honesdale in 1887, by Daniel Routan."—Stephens.

Elk County . . . "The last wolf was shot in Elk County in 1891."—Clay.

When the wolf reached the point of being rare in Pennsylvania, a strange but typically human reaction occurred: few people were willing to admit that before their very eyes the exciting day of the wolf had somehow evolved into a rather dismal storybook legend. Many countryfolk were nettle-quick in denying that the existence-term of the wolf now belonged almost exclusively to preceding generations, and false rumors of the sighting of wolves became almost pathetically commonplace. Indeed, there was even an ample number of those inevitable characters keenly bent on going to *any* length which might keep the drama of a cunning wilderness beast from losing its magic force. Such as the following infamous but fully documented instance of planned deception:

Joe Poole's "Wolf"

Wolf stories not only were skillfully invented, but "evidence" was produced to verify their fabrications. The notorious case of Joe Poole's "wolf" may eclipse all other old-time wolf tales.

Poole, of North Mountain, an old and well-known trapper in the Chambersburg region, produced the skin of a wolf which he declared he trapped in Bear Valley, near Loudon, in Peters Township, during March, 1897. So cleverly did Poole play his game that many hunters who visited him, skeptical of his story, went away convinced that he actually had the genuine article. A few suspicious parties, however, decided to do some detective work, and even they came close to being converted to Poole's logic!

A photograph of Poole, with the wolf skin on his lap, was taken and Poole proceeded to collect the bounty from the Franklin County treasurer. Then, with startling boldness, Poole agreed to sell the skin and to produce



OCCASIONALLY, humans were forced to climb trees to get out of the reach of wolves. Sometimes they had to sit there all night.

the skull of the "wolf" as further proof of his sincerity. A Mr. Strealy sent the skin and the skull to the Academy of Natural Science in Philadelphia. An examination of the skin showed conclusively that it came from a coyote or prairie wolf. The skull was that of an old dog, resembling closely the skull of a foxhound. The "Pennsylvania wolf" specimen was preserved by the Academy ". . . As an object to future investigation of the Pennsylvania fauna. . . ." Poole's deception had fooled many a knowledgeable hunter, and he never revealed how either the skin or the skull came to be in his possession.

There are other similar records of dishonest pretenses in print—one involving three carnival wolves in Tioga County, purchased by a Cedar Lodge man for 50 cents each, released and shot on the spot during a winter snowstorm in Liberty Township, and successfully presented to a justice of the peace for bounty payment of \$30.

But no matter how misleading or shameless the schemes to preserve an

image, the return of the wolf to Penn's Woods simply was not to be. All of his hair-raising episodes, his defeats and his triumphs, his mockery of the novice, and a rank miscellany of additional destructive practices now belonged to the past. At last there was no challenging wild cry to inspire vows of retribution; nor to guarantee the creation of inexplicable thrills, nor panic, nor suspense.

In taking a long and reflective backward look at the colorful era of Pennsylvania wolves, let us suppose, just for the novelty of the notion, that a pair or two of the storied animals are

at this moment running free and wild along some high Keystone ridge—where among us would be first to seize an opportunity to destroy them? I wouldn't. Would you?

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Some Sidelights on Wolves

What manner of animal did nature provide in the makeup of the wolf found in Pennsylvania? Like all other wolves he was a true member of the dog family, with the prevailing color being gray. He generally was dark to almost black along the back, but there were color-phase variations and sometimes the coat was buff-brown to reddish brown—the latter being a fairly common color among Pennsylvania wolves, according to Godman's "American Natural History," Vol. 1. Wolf fur was listed as "Not especially durable."

The gray wolf—"Canis lupus lycaon"—hunted in packs ranging from three or four individuals to 30 or 40 or more. Non-migrating, he stayed to face the worst of winters and, amazingly, could get along on one full meal a week and manage to make it through the main part of winter on a dozen well-spaced meals. His endurance was so great that he could run at his fastest pace for hours on end; and in his jaws he possessed such remarkable strength that no dog could ever best him in a fair contest.

After a gestation period of 63 days the female wolf gave birth to three to seven young, and usually suckled them about six weeks. The male took his turn watching over the offspring and helped to provide food as soon as they were old enough to take solid nourishment. But it was usually the mother who taught the young how to obtain success in life. By showing her terror of a trap, the wise parent effectively got her message across.

The wolf had three distinguishable calls: the muster, or rallying cry; the song of a pack on a hot scent; and the excited announcement that the time had arrived to close in for the finish. One had to hear them, and be fully acquainted with the wolf and his habits in order to accurately interpret the eerie "language."

Ernest Thompson Seton also believed that the wolf had developed to an extraordinary degree a system of intercommunications by placing conveniently spaced odor posts throughout their range. Through these posts the wolf was believed to be able to determine the progress of matters in which he was vitally interested—the passing of friend or foe, the direction taken, and perhaps even for what purpose. Wolves are also believed to be able to warn each other of certain dangers, such as poisoned baits, but how this knowledge is passed along is a total mystery.



TURN-OF-THE-CENTURY "spendthrift" hunters stayed at the Big Onion Hotel at a cost of \$2 per day, including three meals.

Ghost Town . . . and Hunter's Paradise

By Ted Fenstermacher

"JAMISON CITY!" Those are words that carry magic for thousands of hunters. They mean crystal clear waters, pure air and spotless snow in a deep valley that lies in both Columbia and Sullivan Counties.

They mean tramping through that snow, the sharp reports of rifles and the bringing in of deer and bear. There is the fragrance of woodsmoke from the fireplaces and stoves of dozens of hunting lodges. And—the substantial chow, the telling of new hunting tales and the retelling of old ones.

All this is Jamison City—but why is this hamlet called a city? And what is the story behind the towering smokestack that, says E. William Mather, veteran resident, required 30 railroad cars of bricks? Why the still impres-

sive foundations of buildings long since disappeared?

What about the 148-foot-long, 30-foot-wide concrete vat that is now being converted into a swimming pool? For that matter—why a railroad station, complete with its original fireplace, in a place many miles from the nearest railroad tracks?

And—possibly the biggest question, to the casual visitor—how does it happen that an attractive "town" with many dozens of well-kept buildings has a population of fewer than 50 people, in a dozen families?

The answer is that Jamison City has long been a ghost town but, at the same time, has long been a Mecca for the many hunters who maintain hunting lodges here.



THE CHIMNEY STACK in Jamison City required 30 carloads of bricks to build, is almost 100 feet high. It helped provide steam for tannery.

In the late 1800s and early 1900s it was a booming community and, particularly on payday nights, a wild one. Leather and lumber, "the two L's," were the reason.

There were almost 2000 residents in the community in those days. And five hotels, several stores and meat markets, a church, a barbershop, a post office, a railroad station.

Both passenger and freight trains chuffed in and out of Jamison City—three trains per day—as the main tie with the outside world.

The trains brought in supplies and hides for tanning. They hauled out tanned hides and processed lumber from the mills. There were also wagon hubs of wood and sheets of veneer.

One hundred thousand feet of lumber were often cut here in a single day, and the high-pitched whine of giant saws, operated by steam power, was heard seven days a week.

Rough lumber sold at \$8 per thousand feet at that time. However, a

10-hour day as a lumberman brought only \$1.25. Things have a way of evening out.

The Bloomsburg and Sullivan Railroad was no slouch in regard to charging fancy rates. Old-timers say it cost more to bring a carload of raw hide from Bloomsburg to Jamison City, the same county, than it did to haul the carload from Chicago to Bloomsburg.

Hemlock Bark

Thousands of hemlock trees on the local mountains proved a beacon to the leather industry because hemlock bark was then vital for tanning leather. A tannery that was to become one of the largest in the state was built here in 1888. The next year the railroad was extended here from Bloomsburg and in 1892 the first big sawmill was built here.

At first giant hemlocks had been cut, stripped of their bark and then left to slowly decay. Such criminal waste was ended when the sawmill operations began.

With the new industrial activity financed largely by wealthy investors from Philadelphia and Boston, everything seemed to boom. There was also strong optimism concerning possibilities as a resort.

The town had been named Jamison City in honor of Colonel John Jamison who had helped finance the railroad and who, along with A. L. Fritz and Colonel James Corcoran, had bought three big farms and had laid them out in building lots. The lots sold quickly.

A deluxe hotel was built on a hillside overlooking what was to become the main part of town. It was near the railroad station and was what the people liked to think was "genuine Swiss architecture."

The main part of the plush hotel measured 30 by 90 feet and it had a rear extension 24 by 40 feet. Three stories high and complete with verandas and towers. All very ritzy.

Thomas E. Proctor, a well-heeled Bostonian, owned the new hotel and

he named it Proctor Inn. Later it was named Manor Rest and, still later, it received the unlikely name of The Big Onion. Dr. Craig A. Newton, history professor at Bloomsburg State College, explains: "Wealthy and influential people of that day were often called 'big onions.'" Apparently the name had snob-appeal, for it was used.

Even in those days, and despite the lumbering activity that went on, hunters found Jamison City to be something of a Mecca. Sportsmen who had plenty of money went whole hog and stayed at the Proctor Inn during their hunting trips. There, while basking in the luxury of Brussels carpet, spring beds and hair mattresses, they "squandered" \$2 a day. That, of course, included three excellent meals along with the room. Oh, happy day!

Those who refused to throw money around in that fashion chose one of three other hotels at more reasonable rates. The City Hotel — the town seemed hep on the word "city"—was particularly popular with traveling salesmen, usually known then as drummers.

Church Built

Jamison City people began to feel a little guilty about having four hotels but no church. In 1893, a Methodist Episcopal congregation was formed and an attractive church, built of the finest wood, was erected. It certainly should have been of good material because the total cost, including furnishings, was an impressive \$1300!

That church—for many years now—has been a hunting lodge.

The city had its ups and downs as the leather and lumber companies there had good times and bad. But it was big business—no doubt about that.

Twenty-seven earloads of hides were in the hide house, for processing, at a time. In boom times the hair was removed from 600 hides in each shift. The removed hair was baled up and shipped out for conversion into felt hats, carpets, horse-blankets and into

what must have been extremely uncomfortable clothing.

The main tannery building was 654 feet long! It had 348 vats with 72 rockers in which the sides (each hide made two sides) were rocked in acid-liquor for two weeks. They later were put on a giant wheel for oiling and then went to the 12-room drying department.

The hides were then dried artificially by steam pipes and fans. The final step was the flattening of the hides by steam-powered rollers.

Jamison City leather was a high-quality product. Many of the nation's finest shoe manufacturers, in the New England states, insisted on the local product.



MR. AND MRS. Carol McGee, Harrisburg; Verna Cadwallader, Paxtang; and Donald McGee, Sr., Linglestown, are among the hunters who regularly head for Jamison City in December.

Lumbering work was also on the grand scale. The main sawmill was one of the state's largest then. Much of the "transportation" of logs to the local mill was by water.

Dams were built on the mountain streams and, when sufficient logs had been maneuvered to the impounded water, the dams were blown. The raging waters carried the logs to the giant pond at the mill.

There were times when that pond

held an estimated 8,000,000 feet of lumber. That was the equivalent of 800 railroad carloads.

In many cases the lumbermen used slides of greased plank troughs resting on "X" braces to send logs roaring down the mountainside. Accidents were frequent—and expected. Company hospitalization was unheard of. A man had to take his chances, didn't he?

Fires and Floods

Fires and floods played a major role in hampering the fortunes of Jamison City. A large part of the tannery was destroyed by fire in March, 1895. In the spring of the following year a stubborn forest fire swept over great areas.

Both tannery and sawmill were shut down as the mill whistle brought all those employees running, along with other people, to fight the fire. It destroyed two area lumber camps before it was halted.

Heavy rains in November, 1896, caused a flood that wrecked the dam at the sawmill. The main part of Jamison City was flooded as a result, according to research done by Thomas Pierontoni, Bloomsburg State College student. The boiler of the sawmill was carried away at that time. Another fire in May, 1898, destroyed the main sawmill.

The structures were rebuilt each time but a town that depends on lumbering, either directly or indirectly, is going to prosper only so long in any event. Time caught up with Jamison City.

The train excursions that had been running frequently to the community, so the curious could see the boom town, dwindled. In 1901, a man discovered copper ore here and some excitement resulted. That optimism petered out when it was learned the ore was in only small quantities—not enough for profitable mining.

As long as even reasonable industrial activity continued there was plenty of excitement on payday nights.

The across-the-creek laborers, many of whom had come here originally as laborers on the building of the railroad, called their part of town Hoboken. Others often referred to it as The Patch.

Whatever it was called, those hardy lads seemed bent on drinking Jamison City dry each payday night. They never achieved it for whisky was cheap and plentiful. While mothers and daughters—along with most self-respecting fathers and sons—remained inside their homes on those nights the drinking and carousing went on. Fights were so frequent as to go unnoticed.

One Hoboken resident became displeased with his brother on one of those nights and sent him neatly to Eternity with the help of a dagger.

The Columbia County court was willing to overlook most Jamison City trouble in those days for most of the trouble was among "outsiders," but a death did require at least some official attention. His Honor gave the killer a sentence of 30 days in the county jail. The judge was roundly condemned by "Joe's" buddies for being so hard on the defendant.

End in Sight

The leading sawmill—with the regional mountains mostly lumbered or—gave up in 1912. The tannery managed to exist until 1925. Hemlock bark had in the meantime given way to commercial acids compounded of chemicals.

Then the railroad ceased even its spasmodic service. The tracks were torn up all the way to Benton.

The Big Onion and the other hotel had been torn down. The City Hotel is said to have closely resembled an attractive and picturesque hostelry.

Give

GAME NEWS

To a Friend . . .



SOME JAMISON CITY HUNTING lodges are entirely new, such as this one of concrete block. All have a view of surrounding mountains, where good numbers of deer and other game abound within easy hunting distance.

The Central Hotel, located at nearby Central.

A great many of the houses were torn down to save on taxes. Most of the others have, since then, been purchased by hunters—either individuals or camps. To their great credit, they take good care of the buildings in almost all cases. There have even been a couple of new ones built in recent years.

Probably the most startling reminder of the place's heyday, for visitors, is the 100-foot-high brick stack of the former tannery. That stack, with its cap, was in fine condition until recent years. Thoughtless hunters shot away the cap. Water, as a result, gets in around mortar each winter and loosens the bricks when it freezes.

Through most of the year Jamison City is an extremely quiet place—albeit an attractive one, with mountains that rise steeply from each side of town. A considerable number of hunters do visit their lodges in the summer. Nearby trout streams and

the peace and quiet of a beautiful valley are real attractions.

Only one business place now exists and that is a small tavern. Payday nights hold no fears for there is no payday. Heads of some of the dozen families are retired. The others work “out of town.”

But, come big game season, Jamison City again bustles with activity. Cars are everywhere. Lights shine from every building at night. The town is a beehive until the final day of the season.

Then things go back to what, in recent decades, has been “normal” for Jamison City. Sometimes the wind sighs through the thousands of trees that again cover the once-lumbered off mountains. Other times the wind whistles or even roars.

But regardless of the inactivity that marks the place most of the year, it's a great place, whether it be just to hunt or to live the year round. Furthermore, it's a town with a fascinating history.



Give Your Wife a Break

By Robert F. Cubbins

A GOOD FRIEND of mine, an ardent fur-fin-and-feather man, phoned one night about a week before the opening of the deer season.

"Hi! It's Jim. Busy?"

"Not really," I said. "Just trying to get my gear together for our Saturday hunt." For the past half-hour I'd been checking ammo, touching up the edge on my knife, threading new bootlaces, and cleaning my rifle.

"Drop over for awhile. Got something I want to show you."

Satisfied that all was in readiness for the big day, I hopped into the car and drove to Jim's. His son ushered me into the living room, where Jim, perched on the edge of an antique velvet chair by a roaring fire, was working the bolt of a new 270. A bottle of Hoppe's No. 9 swayed dangerously on the exquisite Aubusson rug.

Jim stood up, tossed an oil-soaked rag on the mantel, and pressed the new beauty into my hands. Before I could utter a word, Jim's wife Meg appeared with a pile of newspapers, a large vinyl drop cloth, and a paint bucket.

With a cursory, "Hi, Bob," and a malevolent glance at her husband, she spread the newspapers on the rug before Jim's chair, covered the chair with the vinyl, put the Hoppe's and the oil rag into the paint bucket, and rudely prodded the setter lying before the fire toward the door. "Out, out, old Sport!" Closing the door on the hapless dog, she faced Jim. "Must you bring that mess into the living room? We *have* a basement; why don't you use it? You men and your hunting!"

With her last comment, mitigated somewhat by a constrained smile and a shake of her lovely head, she left the room . . . only to return in a moment with the vacuum. "Dog hairs! Dog

hairs! Why did you build the dog-house? You might as well put the house *and* the dog in the living room—there's room next to the desk." Summarily, she departed.

"Well, what do you think of it?"

"What?" I said, gazing abstractedly toward the dining room.

"The rifle, buddy, the rifle. Beauty, isn't it!"

A Strong March Wind

I hadn't yet recovered my composure. Meg swept through like a strong March wind.

Sensing my embarrassment, Jim hastily dismissed the whole episode: "Oh, for gosh sakes! Don't let Meg's ranting bother you. Hear it all the time. These women have to have something to complain about. Pay no attention. Sit down. Coffee?"

"Yeah! Great. Thanks." Jim went for the coffee. I stretched out in front of the fire and looked around the room. Everywhere were touches of Meg's impeccable taste. The room was a showplace. . . . The room? I thought. Heck . . . the *whole* house . . . grounds 'n all. I thought of the beautifully manicured lawn, the outdoor barbecue area in the backyard, the spacious playroom for the kids, replete with ping-pong and pool tables, Meg's sewing room which looked like something out of *House & Garden*. It dawned on me that Jim, a man who devoted almost every leisure hour to his guns, his dog, and his fishing rods, had no den . . . no spot in the whole house he could call his own. Good grief, I thought. I'd go batty. So would my spouse.

Jim returned with the coffee.

"Say, old buddy," I proffered. "How's about my helping you build a little den where you could escape the pressure? Could do it in a weekend."

"Are you kidding?" was his immediate retort. "For what? Who needs one?"

"Well," I said, "for a starter, how 'bout Meg?"

Disregarding my comment, he hiked quickly up the stairs. I heard him rummaging about in the closet overhead. He reappeared about five minutes later with his old 30-06. "Remember this old thing? Hasn't the balance of the new 270." He grabbed the new rifle, thrust the old one into my hands, and leaned the oily beauty against the couch. The couch was also velvet . . . a soft gold.

For Pete's sake, I thought. He's worse than a six-week-old puppy. In the next 20 minutes, he visited the basement twice, the upstairs at least three times (maybe more; I lost count), and the broom closets in the kitchen. Five rifles and assorted shotguns now rested against various pieces of furniture (all of which were upholstered in delicate fabrics), and the rug was cluttered with boots, scopes, shells, books, and other accouterments too

"SAY, BUDDY," I proffered, "how's about my helping you build a little den where you could escape the pressure. Could do it in a weekend."



numerous to mention. These things he'd collected only after an exhaustive search through closets, drawers, and cabinets in every nook and cranny in the house.

An hour and two cups of coffee later, we'd run out of gas; it was time to break up the party. I couldn't leave, however, until I'd helped Jim return his gear to the honeycomb he had stretched from one end of his house to the other. I broke into a sweat before we put the last shotgun into its place on a shelf next to the furnace. Meg had long since retired when I reached the front door, having surrendered, I'm sure, to the primitive husband and his primitive friend.

Loves Dogs . . . Guns, Too

"I want you to come over in the morning, James . . . about nine o'clock. Bring your dog," I said. "My wife loves dogs . . . guns, too."

I left him standing in the doorway with a puzzled look on his face.

Jim arrived next morning about 10:45. True to form! He had never been punctual. Our bird hunts were always delayed until Jim arrived with his crackerjack of a dog. The dog was his saving grace.

"Okay, what's up?" he leveled at me.

I took him and the dog through the house to my den. "This is up," I said.

"What?"

"The den, buddy, the den," I said.

"You're not on *that* subject again. So you've got a den, and I haven't seen any changes in it in five years. So what?"

"So *this*!" I started with the corner desk, the spacesaver that allows me to cram all kinds of stuff into little spaces. Jim was a captive audience, and I fully intended to prove to him in my 10-minute guided tour of my 12 x 14 that a den is to the outdoorsman what a workshop is to a carpenter. All of my cherished items of equipment were readily accessible and all housed in one room with only two small closets.

"Okay, James," I said, "now tomorrow let's say we're going after ven-

son." In two minutes I'd assembled on one of the twin beds my rifle, ammo, knives, boots, clothes, compass, and all the other goodies we nuts carry into the woods with us. Just as quickly, I returned them all to storage.

I gave him no chance to offer a disparaging comment. "Now let's go bird hunting." In less time than it had taken me to give the first demonstration, I'd assembled bird hunting gear. The whole works.

"So you wanna go trouting, eh?" Opening a drawer within arm's reach, I secured a vise to the desk, plucked a few hackles and peacock eyes from one of its compartments, and went through the motions of starting to tie. A surreptitious glance at Jim told me he had perked up. He keeps his fly tying gear in a junkbox in the broom closet, and does his tying on an old card table that wobbles like a kid taking his first steps.

Everything Easy

In rapid succession I showed Jim that it was possible to perform all of the following without leaving my chair more than three or four times, and then only to step to a closet and back:

1. Clean rifles and shotguns
2. Oil boots and leather goods
3. Put my finger on any one of dozens of outdoor reference texts
4. Repair rods and reels
5. Tie flies and leaders
6. Curry and comb my dog
7. Telephone the Game Protector
8. Take a quick nap (He thought this was great.)
9. Show hunting and fishing slides
10. Escape from the family (Greater!)

At first he sat on the edge of the daybed with a sardonic grin on his face and a "So now I'm gonna get a lecture" droop to his shoulders. After I'd gone through the bird hunting routine, he said, "So you're organized . . . good for you. You'd make some guy a good wife. Haw, Haw, Haw!"

However, by the time he'd sat through the whole show, he was



WHEN MEG SMILES, the furnace shuts down. She was smiling. "What's up?" I asked. "As if you didn't know." She gave me a cup of cocoa and led me toward the basement.

reaching for a pad and a pencil on my desk. "How can I get a corner desk like that? What's that cabinet worth?"

I restrained the impulse to gloat and suggested that he might put a carpenter's square and a saw to use without damaging his shooting eye or reducing the arc of his casting arm. He rose, mumbled something about a corner of his cellar, grabbed a piece of Danish from the breakfast table, leashed the dog and left with hardly a nod.

Three days later I phoned his office. "No, he's not in," his secretary informed me. "Said something about a lumber yard. Shall I have him call you?"

"No, thanks," I said. "I'll get in touch with him at his home." Ah, the sweet fruits of victory! I was sure to get one of Meg's stupendous apple pies for my efforts.

Two weeks after the den demonstration, the phone rang one night. It was almost 11 o'clock. I was warmly ensconced in my bed, reading a thriller about Kodiak bear.

"Wake you up? Sorry, old man.

Want you to come over for a few minutes . . . *now*." He sounded insistent. Jim has a master sergeant's voice.

I feigned petulance. "It's 11 o'clock, James. Can't it wait?"

"Nope! Right now," he said.

Ten minutes later, Meg met me at the door. When Meg smiles, the furnace shuts down. She was smiling.

"What's up?" I asked.

"As if you didn't know." She pushed a cup of cocoa into my hand and led me toward the cellar.

It was beautiful. He'd walled off a corner of the cellar, installed enough shelves to house a city library, built cabinets all over the place, tiled the floor, hung pictures of hunting and fishing scenes on the weathered pine pallet lumber walls, built a desk into the corner and added a bed. One look at the curtains on the one window and the game bird prints on the bedspread, and I knew Meg had not been idle during the construction. Jim grinned like a kid let loose in a toy store for the first time.

All this took place two years ago. Since then, Jim's hung up two more trophy racks, an 8-pointer and a 7-pointer, enlarged the window, and installed a small hi-fi and TV set. Meg says his joints are creaking now from hibernating too long in his den. But the living room is a showplace again, the dog hairs are all on the den rug, Jim prepares for an outing between the main course and dessert, and, *best* of all, he hasn't been late for a hunting date since. And I *got* the pie . . . and a wild turkey dinner to go with it.

So what does one do with the long months between the seasons? Try sighting down the rib of a saw and testing your aim on a few nailheads. Build yourself a den you can enjoy all year long. It will be *yours* to keep as messy or as neat as you wish to keep it. And if you're smart, you'll allow no one to dust, vacuum, or polish. Do it yourself. Give your wife a break and she'll try to give you one. Well-intentioned but unfamiliar with

the outdoorsman's tools, she might well consign your best hat, the smelliest one with the stained brim and the holes in the top, to the wastebasket along with a scope or two, some old feathers that "just collect moths and smell up your den," and mayhap, one day, all those old magazines that "just clutter up your desk." Let it be known that the best favor the wife can do for you is to see to it that the kids stay out of the den and cleaning be left to your expert care.

A Few Ideas

1. Sec your lumber dealer for desk, cabinet, and shelf plans. He can also tell you the best way to frame the area you choose. Only basic tools are needed: saw, square, hammer, etc.

2. Consider sturdy, unfinished pine or maple chests with drawers. These can be divided easily with plywood drawer dividers.

3. Old barn siding or weathered pine pallet wood makes attractive decorative paneling.

4. Inexpensive metal storage chests are available in many sizes. These can be painted to match the decor.

5. Consider a locked drawer for ammo.

6. Shelves can be built with nothing more than red brick and 1 x 8s. Use heavier lumber for big stuff.

7. If you build your den in the basement, consider a suspended ceiling. It's easy to install and it can be removed in a jiffy to facilitate repair of pipes, heating ducts, etc.

8. An outdoor canvas hammock makes a good substitute for a small bed. Takes up less space, too.

9. Pegboard has a thousand uses. Look into it. The 3/4-inch stock usually suffices for everything. Get the kind with a hard finish. Usually darker than the untreated.

10. For more and better ideas, take a little siesta in your unfinished den. Keep your eyes open and mentally jot down what you think you might like to add in the next five years.



SPELUNKERS IN A "WILD" (unexplored) cave search the "river" for signs of cave life. This was the first known visit to this cave.

Ever Give Any Thought to Those Parts of the State That Don't Immediately Meet the Eye? Here's a Look at the . . .

Caves of Pennsylvania

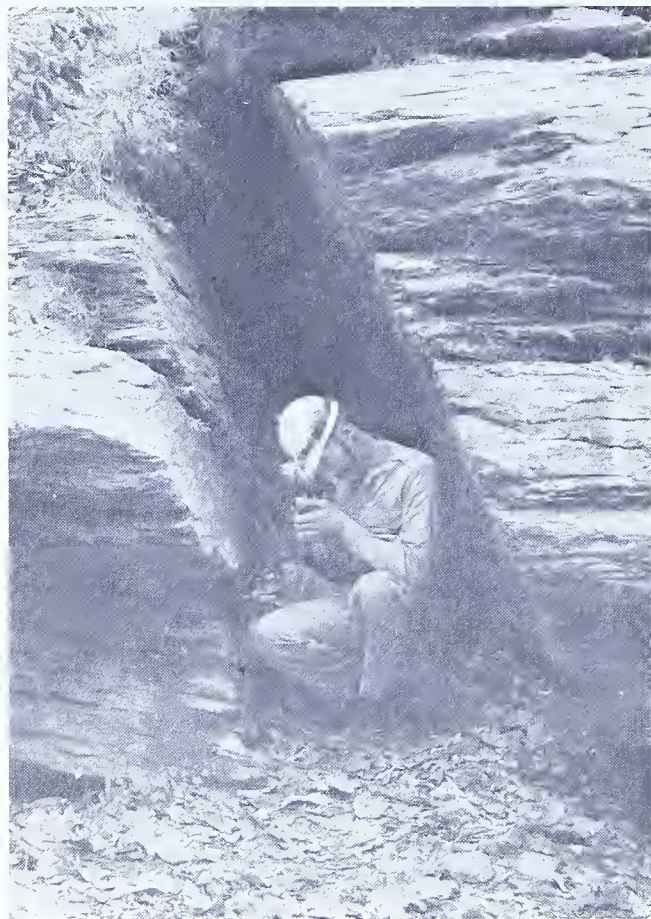
By George F. Jackson

CAVES WERE MAN'S first natural home and he has been fascinated and awed by them ever since. Prehistoric peoples used them as homes, burial places and for religious rites. Sometimes they painted and carved records of their activities on the walls.

Today, as every tourist knows, millions of visitors go through the commercial caves which are found throughout the country. At last count there were 11 commercial caves in Pennsylvania. These are easy-to-walk through, well-lighted showplaces of the natural underground. The noncommercial "wild" caves, the unexplored ones—of which there are more than 600 in Pennsylvania—are those that arouse

the greatest interest in the sport caver and the speleologist. These naturally air-conditioned and mysterious parts of the netherworld offer challenges unequaled in the outer world of sunshine. There may be places where no man has ever trod, tiny forms of animal life, or beautiful and lovely sights all sparkling and gleaming like jewels in the explorers' lights. It is an impressive sport and an intriguing scientific pursuit.

Speleology (from the Greek word *spelaiion*: cave, and *logos*: study) is a new science in America. Spelunking (from the Latin *spelunca*: cave) is a word used to describe sport caving as differentiated from the more scientific



CAVER CHECKS HIS camera before entering Wind Cave in Pennsylvania. Fantastic stone formations make beautiful subjects for camera enthusiasts.

aspect of underground activity. Many speleologists, however, have become spelunkers, or cavers, as they prefer to be called, and some sport cavers have become speleologists because of their curiosity about the formation of caves and their contents.

Most of Pennsylvania's caves were created as a result of the solution of underground limestone and marble. These relatively soluble rocks are found throughout the state. With a few exceptions caves have developed along joints in the rocks. Some are simple in pattern and consist of only a single tunnel. Others are more complex, with many interconnecting channels and several levels. Passageways vary in size from over 100 feet high to "crawlways" only a few inches in

height. Most are reasonably horizontal but some have deep pits. Fills of silt washed in from the outside and heaps of fallen rock here and there dot the floors of most.

Almost all authorities agree that the actual formation of caves is a result of a solution process which dissolves and eroded away the limestone, but beyond this point there is some difference of opinion. The various cave development theories are interesting but it is beyond the scope of this article to go further into them.

Stalactites and Stalagmites

After their formation some caves are decorated with lovely, sparkling stalactites (hanging from the roof) and equally spectacular stalagmites (rising from the floor). Formed over long spans of time by slowly dripping calcium carbonate-laden water, these deposits may have a color range from pure white through all shades of brown, red and black, even pale green and blue. Some have weird shapes and may resemble objects in the outer world. No two are alike. All are enchanting.

The temperature of most caves is usually the same as the average annual mean temperature of the surrounding area. Pennsylvania caves, therefore, have an average temperature of 54° F.

The cave life of the state is varied but there are no eyeless fish or blind crayfish such as are found in caves of the Midwest and South. This is because the last glacial period occurred too recently to permit the evolution of any eyeless cave species. All life forms that may have existed in caves before the glaciers came were destroyed by the immense ice sheet and their frigid waters.

Snakes never enter the dark zone of caves, although they are occasionally found around entrances, especially during the hot summer months when they seek the cool air issuing from the cave. They have sometimes been seen in steep pits opening to the surface

having fallen in and been unable to crawl back out.

Perhaps the best known denizen of the state's caves is the bat, one of the most maligned creatures of all time. Bats are neither blind nor do they carry "bugs" or get into one's hair. Despite all the old fairy tales and rumors, today we know that bats are extremely helpful to mankind, that they are mammals, not birds, have teeth, fur and give birth to living young and nurse them on milk. Not only are they one of the world's older mammals, but they also are probably the most numerous animal in the United States. Their sonar-like echolocation abilities enable them to navigate in total darkness with great ease.

Cave Dwellers

Eleven species of bats have been found in Pennsylvania. Normally, bats sleep in caves during the day and fly out at dusk for their evening feeding. The enormous quantities of insects they consume makes them a valuable animal. Some species hibernate, hanging head downwards, on the ceilings and walls of caves during the winter. Large groups often resemble a big furry brown blanket fastened to the roof. Wintering bat colonies should not be disturbed. If aroused, bats fly around using up the energy and fat they have stored and are unable to live out the rest of the winter. No caver should ever harm cave bats. They are not dangerous to man. In recent years, a few bats carrying the rabies virus have been detected, but almost any warm-blooded animal can also carry and transmit the disease. Since the normal Pennsylvania cave bat cannot bite through the skin of one's finger it is unlikely that they can transmit the virus by bite, or even by fouling the air, for the state's cave bat population is extremely small as compared, for example, with the huge bat caves of the Southwest, where the normal bat population exceeds millions. However, common sense dictates that it is wise to avoid handling

any wild animal, especially one that appears sick or acts erratically.

Two other Pennsylvania cave dwellers commonly seen by cavers are the cave rat, *Neotoma magister*, and the cave erieket, *Hadenoeus subterraneus*. *Neotoma* is the same creature that is famed in the West as the "pack rat." Not to be confused with the disease-carrying Norway or household rat, *Neotoma* is a clean, native rodent and, like its western cousin, collects shiny or brightly colored objects and hides them away. It has great curiosity and shows little fear of humans. Once

TWO GIRL CAVERS look over a tall and beautifully colored stalagmite in one of Pennsylvania's many wild caves. A lot of young women have found spelunking an interesting hobby.





STALACTITES hanging from cave roof sparkle in explorers' lights. The one in background is about five feet long. Stalactite and stalagmite join, left, to form a column or pillar.

common in the easternmost section of the state, it is still found in caves of the central and western portions.

Two genera of cave crickets, *Ceuthophilus* and *Hadenoeus*, are found in Pennsylvania caves. They are quite graceful and are usually congregated on walls and ceilings, but may be found in just about any open area of the cave. Unlike its surface relative, the cave cricket does not chirp.

It might be mentioned here that amateur collecting of any form of cave life is discouraged by all experienced speleologists. None are harmful to man. If no good biological use can be made of specimens, they should be left strictly alone. The same thoughtless vandalism that ruined many caves has also caused some species of underground life to become extinct.

Exploring caves is an exciting, interesting sport and a healthful one. Caving attracts people of all ages and both sexes. There is no pollen in caves and the air of most is refreshing and pure. It is not necessary to be a mountain climber or even a very rugged

individual to explore caves. However, like any other out-of-doors activity, some know-how of what may be encountered and some practice is required to prevent accidents or unnecessary anxious moments. Anyone going into a wild cave should follow the following commonsense ground rules:

Never go into a cave alone. Three to seven persons make an ideal group and at least one member should be familiar with good caving practices.

Always carry three independent sources of light. These should be the main light source plus two extra sources. Experienced cavers use carbide or electric miner's lamps, with spare parts, and carry flashlights (with spare bulbs and batteries) and candles and matches in a waterproof package on long cave trips.

Among experienced caving groups, hard hats are mandatory. Not because one is likely to be hit with falling rocks, but they do prevent many bumps and bruises on one's head.

Never use a rope or wooden ladder found in a cave, no matter how safe it looks.

Always carry a plastic bag, or something similar, to take out spent carbide and trash. Never leave any waste in a cave.

Never smoke, write or carve initials or names anywhere in a cave.

Taboo

Breaking stone formations is strictly taboo, besides there are state and federal (on government land) laws against defacing a cave. Literally dozens of caves in Pennsylvania have been so badly vandalized by thoughtless cavers that they are now completely devoid of their former beauty. Do not even touch delicate or small formations. Caves may be in hard stone, but they are extremely fragile, and one moment's carelessness may remove forever something that it took nature, literally, millions of years to form. It is a caver's responsibility to preserve the cave he explores.



GIRL SPELUNKER CRAWLS OUT of Pennsylvania cave after climb up a steep, rock-walled chimney. "Hard hats" are standard gear to save head from bumps.

Always obtain permission of the landowner before entering a cave.

Despite many stories you may have heard, read, or seen on TV, you are not likely to really get lost in a cave. Forget the old idea of carrying string to pay out behind you as you go along. You could not carry enough for even a small cave. If the passageways seem confusing, take along paper arrows, or slips of paper with painted arrows on them, and place them so they always point towards the entrance. Hold them down with rocks. *Be sure* to pick them up on the return trip. *Never* mark directions on the walls.

Horizontal

Most caves in Pennsylvania are horizontal, but there are some with deep pits and holes. Vertical caving requires considerable skill, and should only be attempted by those with experience and training in this technique. Fatal cave accidents the world over have almost all been caused by falling, usually by inexperienced climbers or by improper use of equipment. Ver-

tical cave equipment may consist of cable ladders, $\frac{1}{2}$ -inch or 7/16-inch nylon or goldline rope and the hardware necessary for its use. Rope ladders and sisal or polyethylene ropes are *not recommended*.

In this article it is not possible to go into details of vertical caving, so if you are not familiar with basic mountain climbing skills *do not* attempt any cave climbs. The importance of these safeguards cannot be overstressed.

Almost all organized caving in this country is done by members of the National Speleological Society, a non-profit organization composed of scientists and laymen interested equally in the study, conservation and exploration of caves. The society has chapters throughout the United States, several in Pennsylvania. Its members, collectively, know more about caves and caving than any other group. If you are interested in knowing more about the organization and caves of the United States, write to the National Speleological Society, 2318 N. Kenmore Street, Arlington, Va. 22201.



CHUCK
KIPPER

A CHOICE

By Keith C. Schuyler

KERRY ARNOLD had his bow at full draw. It was a downhill shot, and he deliberately lowered the broadhead nestled against the back of his bow to a point that he considered proper for about 30 yards. The white-tailed buck had not seen him; it was carefully picking its way down the leaf-strewn trail. Only the tips of the high antlers showed on either side.

Kerry hesitated, and he felt a slight quiver beginning against the strain of 50 pounds. It was a made-to-order situation and all it now required was a smooth release, but if he released, it would be the toughest shot he had ever made. That broadhead must first slice through a mental block of his own creation before it reached the deer. But something must happen soon. The canopy of scrub growth was about to close in over the now open path to the departing animal.

The archer exhaled carefully, refilled his lungs and made his decision.

It was not as easy as it might seem. For, in the heart-pounding moments before the deer offered the shot, Kerry's mind had been racing through the events of the past week. It had all started with a conversation in the Buck Luck Archery Club shack the previous Sunday. Jack Maroney was bragging it up a bit. He had filled his tag the day previously.

"That's three in a row for me—all bucks!"

"Yeah, but you had a lot of luck riding with you on this one," Steve Stahl put in. Steve and Jack usually hunted together, and the former had been along Saturday when Jack scored.

"What do you mean, luck?" Jack was half resentful. "Everybody always says it's luck. The only luck involved is in getting the shot. And you usually have to work for that. When you pull down on a deer with a bow, you either have it or you don't."

"Well, you didn't have it by much," Steve observed. "If you hadn't cut the femoral artery in his hind leg, you'd have had a wounded buck running around."

"So?" Jack's question was belligerent, challenging.

"So I think you fling too many arrows around without making sure of your shot. You told me you deliberately shot that buck in the hip."

"That's all I could see!" shouted Jack, as though proud of his marksmanship.

Steve turned to Kerry. As one of the older archers in the club, with a kid of his own sweating out another birthday so he could go hunting with his dad, Kerry was frequently called upon to settle verbal battles.

"What do you think, Ker? Should a guy take a shot like that or pass it up?"

His Face Went Serious

Kerry massaged the elbow of his drawing arm thoughtfully before answering. His lean face went serious, and he addressed the lacing on his moccasins crossed at the end of a six-foot frame as though to keep his answer as impartial as possible.

"I guess everybody has a right to his own opinion," he drawled, "but I won't take a rear shot. The chance of

making a clean kill is pretty slim. I don't want a bad hit on my conscience." Then he raised his eyes to meet Jack's. "And, I don't want any cripples running around to give bow hunting a bad name."

Some of the cockiness went out of Jack as his face flamed. It was hard to get mad at old Kerry. But his mind raced about seeking an opening. Then he had it.



TRACKS IN THE waning light showed fresh sign despite heavy leaf cover on the ground. It appeared that deer were funneling through the saddle on several trails.

"What about the deer you hit in the shoulder a couple years ago and didn't recover?"

Kerry didn't drop his gaze. "That's just what I'm talking about," he replied evenly. "It still bothers me. And you know I lost half a day's pay trying to work out that trail. Chances are that buck recovered. But I had a good shot at him. I simply blew it. It was just miserable shooting — not poor judgment."

"There's no comparison," Steve cut in. "Everybody, gun hunters included,

accepts the fact that a wounded deer will get away once in awhile. Nobody likes it, but it happens." He inclined one thumb toward Kerry. "So there's no comparison between Kerry's shot and the one you took. Like he said, he blew it. But you deliberately took a chance on just wounding that buck."

"Ahhh, you're just jealous because you didn't get yours yet," Jack put in lamely.

But Steve knew he had scored his point.

Kerry had almost forgotten the incident as he made his last stand of the season in a favored area the final afternoon. He had begged off work a few hours early to make the 10-mile drive to the spot in the saddle of the mountain between Saw Dust Creek and the Grimes farm.

A Really Big Buck

The week before he had briefly spotted a really big buck as it moved along a runway paralleling the one he had selected for his stand. A check of the area had convinced him that the buck, or at least some deer, had been using the runway regularly. Tracks in the waning light of late afternoon showed fresh sign despite heavy leaf cover on the ground. It appeared that deer were funneling through the saddle on several trails from the direction of the creek before taking a rather precipitous route down a single trail toward the valley farm. Deciduous trees, still holding some of their leaves were interspersed with a few white pines and hemlocks to make visibility somewhat uncertain, but the place practically smelled of deer.

The sun was nudging the edge of Sugarloaf Peak across the valley when Kerry eased into position on the favored runway after coming up from the creek road. Already the cool of evening was causing his breath to smoke as he gulped needed air after his climb. His wristwatch gave him 40 minutes to quitting time. He blew his vaporizing breath in several directions to determine the air move-

ment and decided that the light breeze presented no problem. It was not strong enough to move the sensitive oak leaves on some nearby scrubs.

His stand gave Kerry a cluttered view of the runway he had previously taken and it provided good visibility down the main trail toward the farm. If the buck came in the way he had before, the hunter would have an easy 15-yard shot from his position to the side of the better deer path. As the chill lowered the temperature of the perspiration caused by his hurried climb to this stand, Kerry idly contemplated the problem he would have if the deer should make its death flight down the steep trail ahead if he got the shot he wanted.

With one arrow on the string, Kerry slipped another from his bow quiver and leaned it against the big hemlock he had chosen to break up his outline. He hoped he would remember to pick it up when ready to leave. As the coolness crept into the valley far below, the temperatures more closely matched from top to bottom and even the light breeze softened to less than a whisper.

It was easy to hear the deer coming. In fact, Kerry at first thought it was another hunter taking advantage of the waning light to get back to his car before darkness set in. But the sound was coming from the direction of the runway he had chosen the week before. Then he saw movement, darkly, among the trees and scrub brush. It was no man. Then white antlers picked up light from across the valley. There was no mistake. It was a buck, and a big one.

A Big 10-Pointer

Kerry had a chance to see just how big as the whitetail stopped, a safe screen of brush between them. He never knew how some hunters could be so sure of the number of points on the deer they missed, but this time had several moments to count them one by one. There were 10 points—10 points on a rack that swept back, out and forward. A beautiful thing.

Whether the buck picked up a faint scent or it was just being its wary self, it stood frozen, breath blowing out a faint fog ahead of its nostrils. Kerry feared that the pounding of his heart would give him away as he raised his bow ever so slowly to cover the opening through which the buck must pass to crest the descending trail ahead. Thirty yards, not more than 30 yards, Kerry convinced himself, and he held accordingly.

Then, in the agonizing way that deer have of doing things, the buck took two quick bounds forward. They carried it past the opening so fast that Kerry was caught at half draw with



THEN THE BUCK WAS in the open again, the white outline of its tail tantalizingly clear as the big one picked its way carefully.

his mouth open. Just as suddenly, the buck dropped back to a steady walk.

But now the deer was screened by brush. Kerry's gaze desperately scrambled among the tangle of limbs and leaves, seeking another opening he had not thought he would need. Then the buck was in the open again. But it was pointed straight down the steep

trail, the white outline of its tail tantalizingly clear as the big one picked its way carefully.

Now it was that Kerry came to full draw, remembering to hold lower than usual for the downhill target. And now it was that his own words cut like a stiletto through the still cold into the most tender recess of his conscience: *I won't take a rear shot!*

I won't take a rear shot.

He could always tell the gang back at Buck Luck Archery that the buck had jumped the string. That it had whirled at the broadside shot and took the arrow in its hip. Maybe he would miss. Maybe the arrow would slip between the hind legs and slam upward into the deer's vitals. If he did only wound the buck, the season would be over now in a matter of minutes. No one would ever know the difference. At least no one could pin it on him if things didn't go right. He could always tell the gang. . . .

Yes, he could always tell the gang anything. But there were two people he couldn't lie to. One was holding the bow and the other was sweating out his next birthday to hunt with his dad.

Lowered the Bow

Kerry lowered the bow. And he was sick down deep inside over the gut cut fate had given him in this moment that was no more than minutes away from the end of his deer season.

In the instant that Kerry lowered the bow and his eyes took in more than the aiming reference that the retreating tail provided, he saw another movement. On both sides of the buck!

Showing through the gloomy background below the deer were two fig-

ures, then one as it lined with the deer, then two again. Two hunters down the mountain were hurrying up a less steep side trail to get on the ridge before growing darkness trapped them down the mountain.

A new sickness replaced the stiletto thrust as Kerry realized that a miss on the deer would likely have meant a wounded or a dead hunter!

Saw the Men

In the same instant, the buck saw the two men as intent on their trail as the deer had been a second before. With a surprised snort, the buck reversed direction and came scrambling up its back trail. It gave Kerry just enough time to recover his wits and to get his bow to full draw. As soon as the buck cleared the top, it slowed then it stopped—right in the opening through which it had made the frustrating bound a short minute before.

It was a good hit.

But Kerry's knife hand trembled. He field-dressed the big one a few minutes after he heard it crash in a heap only 60 yards out the ridge from where it had been shot. He had aimed just back of the shoulder, not taking into consideration that the buck was slightly quartering away from him. His arrow had actually entered the animal's chest a good six inches to the right of where he had aimed. But the angle carried the broadhead completely through the heart for a so-called hit.

Kerry's knife trembled because inches to the right on the first opportunity might have given him a different story to tell. And he had a brother and a wife waiting supper who would want to hear his story.

Philadelphian Is First '69 Triple Trophy Winner

A Philadelphia hunter, John Sforza of 6628 Lynford Street, is the first to qualify for the Pennsylvania Game Commission's 1969 Triple Trophy Award available to hunters who bag a wild turkey, a black bear and an antlered white-tailed deer during the same hunting license year. Sforza took his turkey in Tioga County and his bear and buck in Monroe County.

The Pennsylvania Game Commission

By Lowell E. Bittner

CIA, Southeast Division, Pennsylvania Game Commission

THE PRIMARY purpose of the Pennsylvania Game Commission is to provide outdoor recreation in the form of hunting. This may appear to be a simple task at first sight, but the complexity of the job requires well-trained and dedicated personnel. The purpose of this article is to give the public a better understanding of the objectives and responsibilities of the organization.

The Pennsylvania Game Commission was founded, as the Board of Game Commissioners, in 1895. Six commissioners were appointed in 1896, with Dr. B. H. Warren of West Chester as first secretary. In 1897, the Legislature authorized \$800 for the first appropriation; this amount was for postage only.

In 1927, the Board of Game Commissioners was increased from six to eight members, and in 1937 the title was changed to Pennsylvania Game Commission.

Members of the Commission come from eight specified geographical areas of the Commonwealth. The governor, with the approval of two-thirds of the state senate, appoints competent men as Game Commissioners. These men function as the policy-making body of the organization. After examination of all pertinent data, the Commissioners establish seasons and bag limits, approve expenditure of funds for various projects and set policies on other activities of the Game Commission.

The Executive Director is selected by the Commission. He is the chief Game Protector and his duty is to direct all activities of the Commission. He is assisted in this task by the Division Chiefs in Harrisburg headquarters.



JAMES H. WORDEN, Plains, Luzerne County, was appointed by Governor Daniel Hastings as a member of the first Board of Game Commissioners in 1896 and served as its president from 1905 until 1911.

The field forces are divided into six geographical divisions, each headed by a Division Supervisor. The Field Division offices are located in Franklin, Ligonier, Avis, Huntingdon, Dallas and Reading. The Division Supervisors are responsible for implementing directives from the Executive Director pertaining to the field forces.

The Field Division Supervisor has several men who assist him in the administration of field operations. The Law Enforcement Assistant is responsible for law enforcement and related matters. The Land Management Assistant takes charge of programs on State Game Lands, Farm-Game Projects and other lands under control of the Commission. The Conservation Information Assistant coordinates public

relation programs. The Pittman-Robertson Area Leader works closely with the Land Management Assistant on land programs and is responsible for coordination of federal assistance projects. This federal assistance will be explained more fully later on.

Field officers are classified as Game Protectors or Land Managers. Although primary responsibilities differ, these officers cooperate on their respective programs.



THE PRIMARY PURPOSE of the Game Commission is to provide outdoor recreation in the form of hunting. Don Dvorznak, Bloomsburg, is one of the millions of hunters who have benefited.

All salaried officers of the Pennsylvania Game Commission are selected through examinations conducted by the State Civil Service Commission. Successful applicants are trained at the Ross Leffler School of Conservation, the Game Commission's training facility near Brockway in Jefferson County. This training, in all phases of wildlife conservation, takes approximately 11 months. After graduation, the men are commissioned as Pennsylvania Game Protectors and assigned to the field as Game Protectors or Land

Managers. They then serve a nine-month probationary period before becoming permanent employees.

The Land Manager is responsible for directing land operations in the field. He is in charge of an area consisting of several counties or parts thereof. The Food and Cover Corps, hourly employees, perform work on land operations under the Land Manager's direct supervision.

Game Protectors are responsible for carrying out all other programs of the Game Commission. Some counties have one Game Protector, others as many as four. In some instances, a Game Protector will have parts of two counties as his assigned territory.

Citizens for Conservation

Each Game Protector has a number of Deputy Game Protectors assisting him in his assigned area. Deputies are ordinary citizens interested in the wildlife conservation program. They normally are employed full time in other occupations. They serve the sportsman and public with little monetary compensation. Without these dedicated individuals, the task of the Game Protector would be much more difficult.

Briefly, this is the manner in which the Game Commission is organized. Now, where does the money come from to finance these programs?

The largest source of income is from the sale of hunting licenses. Pennsylvania leads the nation in number of both resident and nonresident hunting licenses sold. The federal government contributes, through taxes on sporting arms and ammunition, to approved projects on research and wildlife habitat improvement. This money is apportioned to the various states as a 75 percent reimbursement of funds spent on these approved projects.

Penalties for Game Law violations, sale of publications, permit fees, sale of timber from State Game Lands and other sources also contribute to the Game Fund. All Game Commission expenditures come from the Game Fund, not the General Fund.

What has been accomplished over the years with this money? The largest contribution has been the purchase of State Game Lands. Since 1920, the Commission has purchased over 1,000,000 acres of land throughout the Commonwealth. With the exception of relatively small tracts such as refuges, propagation areas, etc., all of this land is open to public hunting. In addition, the non-hunting public uses the Game Lands for hiking, bird watching and other activities not directly related to hunting.

Farm-Game and Safety Zone

Two other noteworthy accomplishments are the Farm-Game Projects and Safety Zone Program.

Farm-Game Projects, private lands of 1000 or more contiguous acres, and the Safety Zone Program contribute another 4,300,000 + acres for public hunting. Cooperators in Farm-Game and the Safety Zone Program receive no monetary compensation from the Commission.

The Game Commission has six Game Farms producing wild turkey, mallard ducks, bobwhite quail and ring-necked pheasants for restocking purposes. The Commission's Howard Nursery, located in Centre County, produces tree and shrub seedlings for planting on Game Lands and distribution to sportsmen's clubs, conservation groups and cooperators in Farm-Game and Safety Zone Programs. These seedlings are intended to provide food and cover for wildlife.

The Pymatuning Waterfowl Area, Crawford County, was established primarily for hunting of ducks and geese. Hunting on this area is by permit only. There is no charge. A similar area, Middle Creek, is being established in portions of Lebanon and Lancaster Counties.

National Acclaim

Accomplishments of the Pennsylvania Game Commission in wildlife management, notably on wild turkey and white-tailed deer, have received

national acclaim. Techniques and performance are constantly being improved as more information becomes available or as changing conditions dictate.

The non-hunter receives many benefits from Game Commission programs.



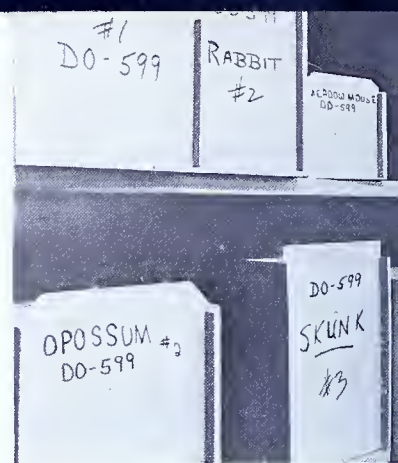
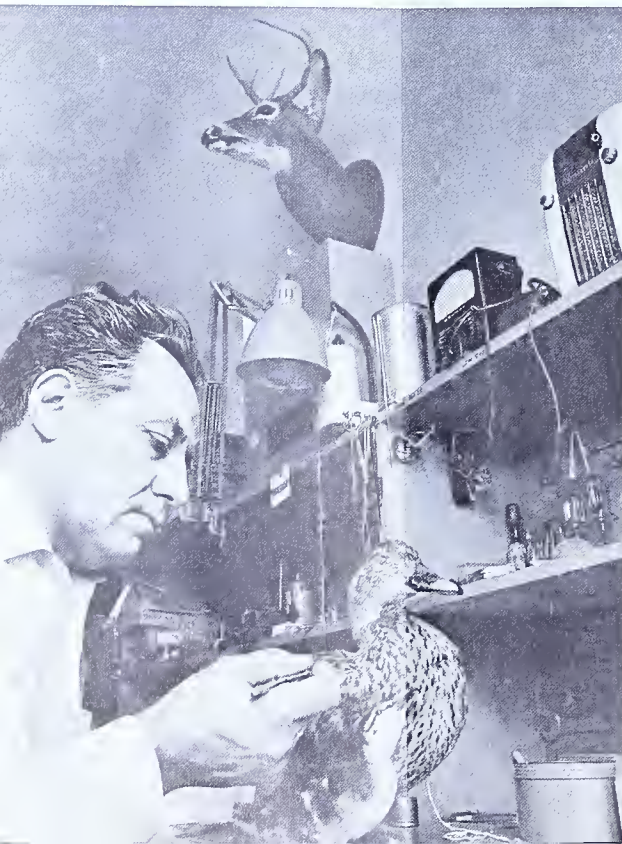
DISTRICT GAME PROTECTORS Bill Aichey and Bill Denton, assigned to the Mounted Patrol, used horses for some of their refuge checking and patrol work in the mid-30s.

As an example, all wildlife is protected by the Game Law. This includes species that are not hunted, such as songbirds. The fact that wildlife is available for observation and study, as well as hunting, is no accident in the Keystone State.

If any species of wildlife becomes endangered, the cause will not be over hunting. The construction of highways, shopping centers, industrial sites, etc., removes wildlife habitat forever. Even as you and I, wildlife needs a place to live and something to eat. Public understanding, concern and action will insure a place for wildlife in our civilization. After all, the loss of any wild creature makes us all a little more poor.



BOB HOHL AND DGP Joseph Leien-decker make a final check on mounted turkey before it is declared ready for instructional purposes. Below, technician cleans specimens before they are sent to a classroom.



CAREFUL FILING and careful condition.

Pennsylvania

THE FASCINATING WORLD brought into the classroom by means of an extensive collection maintained by the Department of Game and Natural Resources, the specimens have been prepared by the Department of Game and Natural Resources Commission. The collection was started when the department was created through the cooperation of Dr. Poole and Samuel C. Gunderson. The lifelike poses, give children a new form of wildlife which they can learn all. The purpose is to make the child an active participant in the teaching/learning one, rather than a passive listener role. The child is involved.

B
A

THE DELIGHTED INTEREST of the children that this program in the Real





of specimens keeps them in top

Wildlife in School

LD of animals and nature is of the Reading School District on of birds and mammals main-udiovisual Education. Many of led by the Pennsylvania Game begun more than a decade ago, of the Reading Public Museum, museum directors, Dr. Earle e specimens, which are mounted a chance to see, feel and study ht otherwise never encounter at e educational process an active an simply relegate the students ults definitely justify the effort

Robert Hohl
ual Director, Reading School District

wn by these young students proves hools is a success.



DOOR-TO-DOOR delivery and pickup of the mounted specimens by the Audio-visual Department allows the teacher to use all her time for instruction. Below, DGP Leindecker delivers a new speci-
men to Hohl.





FIELD NOTES



What'd They Do With 'Em?

LANCASTER COUNTY—My how times have changed. In our local weekly newspaper they run a column called "Fifty Years Ago." In the October 28 issue, the following item appeared: "William Phlager, of the Buck, is raising 100 skunks. Thomas Gregg, Nickel Mines, has about 25."—District Game Protector E. P. Eicholtz, Strasburg.

Warning

ERIE COUNTY — Deputy Nyle Estes had a narrow escape from a limb that dropped from a dead elm tree. Mr. Estes suggested that all those who frequent areas where there are dead elm trees should be very cautious, especially if there's any wind. We have many areas in this section of the state where elm trees are common. Most of these have been dead from the Dutch elm disease for some time, and limbs and trees are constantly falling.—District Game Protector E. D. Simpson, Union City.

Young Starter

TIOGA COUNTY — A young man here in Knoxville has experienced a thrill that many adult hunters never have. During this last turkey season Johnny Mortimer was hunting with his father and he bagged a young hen. This is quite unusual because Johnny is just nine years of age. He may very well be the youngest hunter in the state to have taken a wild turkey. As a matter of explanation for those who wonder how a nine-year-old can hunt, a farmer or his son who meets the specific requirements of being able to hunt without a license on their own farm may do so regardless of their age.—District Game Protector F. A. Bernstein, Knoxville.

Substitute for Safety?

BEAVER COUNTY—It never ceases to amaze me when I deal with people. It seems a large percentage likes to put off everything until the last minute. I have had over 150 calls from people who claim they never heard of the hunter safety course. These calls came after the opening of small game season. I called them back when I got a hunter safety class organized. I told one woman of the class, and she said her son had an important basketball game and asked if her nephew could take the course and tell her son all about it. I told her there were some things we did in life where we could send in a substitute, but the hunter safety class was not one of them.—District Game Protector H. E. Merz, New Brighton.

Compliments

ERIE AND CRAWFORD COUNTIES—After having a successful waterfowl season on State Game Lands 218 in Erie County, it has been quite gratifying to hear the many favorable comments from the public on the development of this area. We have received many letters and phone calls from sportsmen expressing appreciation for the improvements made there.—Land Manager J. C. Hyde, Townville.

Breaks of the Game

LYCOMING COUNTY—To some people rewards in life come early, while to others, well, they may take a little longer. The first bear I examined this season was shot by Brian Clouise, age 14—seasons hunting for bear, one. The next bear I examined was shot by Wellington Dehart, age 61—seasons hunting for bear, 32. For each, this was the first bear.—District Game Protector D. A. Bernhardt, Jersey Shore.

Just Pals

LAWRENCE COUNTY—Michael Wheale of New Castle, home on leave from Alaska, went hunting with his English setter in Sunset Valley along Neshannock Creek. The dog went on point at a pile of brush and remained locked while Mike investigated. He saw a blue-winged teal which did not budge. He cautiously approached the duck and it still did not move. He picked it up to see if it was injured. It was not, so he released it and the duck flew away. "I didn't have the heart to shoot it after the experience," he reported.—District Game Protector C. A. Hooper, Jr., New Castle.

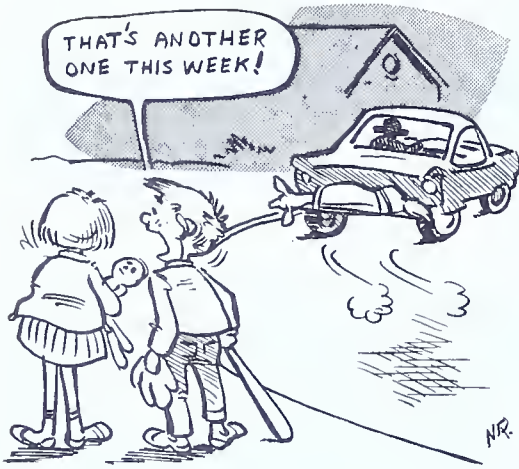
Specialist?

JEFFERSON COUNTY—My son recently caught a wood turtle in a Conibear trap.—District Game Protector H. G. Stankewich, Valier.



Beats Television

YORK COUNTY—Dr. Herman A. Gailey, Jr., and his family enjoy rural living on a farm south of Jacobus. They enjoy the many animals on their property, and it is not uncommon to see six or eight dogs in different parts of the house. These dogs come or go at will through a doorway of their own at the far end of the house. It seems that a large red fox, bored with inactivity, found a new sport. Late in the evening, this fox comes up to the house and stands on a rock outside a large living room window. The fox begins to bark at the lounging dogs in the living room, driving them into a frenzy. The dogs race up the steps, down the hall, across the lobby, through the kitchen, dining room and the back hallway to the rear of the house and out through their doorway. They streak around the house for the fox, but by this time of course, Mr. Fox is loping down through the field, taking them on a merry chase.—District Game Protector G. J. Martin, York.



Seems Obvious to Us, Too

CLARION COUNTY — November proved to be the worst month of the year for road-killed deer in Clarion County. A small boy who lives up the street from my headquarters observed many of these being hauled on the back of my state car. One week in Sunday School class his teacher asked if any of the boys or girls had anything interesting to tell. The little neighbor boy said, "Yes, I do. Our neighbor collects dead animals."—District Game Protector L. L. Harshbarger, Knox.

A Better Use

BERKS COUNTY—On a recent assignment, I asked Deputy Matt Sartori to report with his shotgun and some buckshot shells. Matt showed up with his gun but had no shells. Seems he asked his wife what had happened to his small supply of buckshot. That wonderful woman, who doesn't know one end of a gun from the other, admitted she cut up his shells to get the buckshot. There was this little handicapped neighbor girl who practiced picking up the lead balls as part of her physical therapy.—Land Manager S. C. McFarland, Leesport.

HUNTINGDON COUNTY — One Sunday in November I had occasion to stop at the justice of the peace office in Mill Creek. Upon leaving the office, I was met by one of the JP's neighbors, Jim Drake, who had several questions relative to hunting. While speaking to Jim, his little six-year-old son came running out. Jim said, "Jeffy, go back in the house, you don't have any socks on." Jeff replied in the usual childhood manner that he wanted to see the man. Jim introduced me as Mr. Furry, whereupon Jeffy's reply was something that only a six-year-old could come up with. "Oh, you're the one who gave me my quarter for having my tooth out!" I was being mistaken for the Good Tooth Fairy.—District Game Protector R. D. Furry, Huntingdon.



Fooler

ADAMS COUNTY — Deputy Chester Shriver spotted a deer hanging in an open garage as he was passing by in his car one frosty November morning. After a screeching stop and a fast back up, a "close pursuit" investigation revealed a life-size cardboard deer target used by the "suspect" for archery practice.—District Game Protector J. J. Troutman, New Oxford.

Traps for Rats—Catches Mice

McKEAN COUNTY—A local trapper is having his troubles. Upon checking his traps the first day of muskrat trapping season, he found a mouse in his Conibcar instead of a muskrat. This was bad enough, but the same thing happened again within the next couple of days. I guess this particular trap was made for mice instead of rats.—District Game Protector J. E. Rankin, Port Allegany.

Turnabout

VENANGO COUNTY—On the second day of the antlered deer season I witnessed an outstanding example of cooperation and sportsmanship among a party of hunters and Game Commission personnel. Three deer—two does and an 8-point buck—pushed by the hunters, fell through the ice into Sugar Lake in Crawford County. Cooperative efforts between the hunters and Game Protectors Lee, Decker, myself and Deputy Dunham to free the deer took about four hours. Boats, ice choppers and ropes were used to reach the deer and get them onto the ice. By then one deer had expired and we frantically worked to reach shore with the surviving doe and buck. It gave me a good feeling to watch the hunters trying to save the animal that shortly before had been the object of their hunt. Finally reaching shore, some of the men worked to revive the second doe, but to no avail. That fighting buck was not fighting anymore. He lay on shore as we covered him with a blanket. We couldn't help thinking that the buck never once dropped his head, though he was totally exhausted. Results—due to the hunters' efforts, one of the three deer, the buck, survived.—District Game Protector L. C. Yahner, Franklin.



Understandable

SNYDER COUNTY—On the second day of the small game season I stopped to place a survey card on the windshield of a car parked at the end of a farm lane. A dog was running a rabbit in a nearby cornfield and as I looked for the hunter a neatly dressed young man carrying a shotgun walked up to me. He explained that he had to go to school today but he was going to hunt right up until the school bus arrived. It brought back memories of a boy some years ago who always managed to miss the bus on the second day of the small game season.—District Game Protector K. W. Dale, Middleburg.

Ivan—Where Is It?

PERRY COUNTY—Land Manager Ivan L. Dodd will undoubtedly submit a Field Note concerning a fellow officer's encounter with a member of the canine corps. Far be it from me to doubt the authenticity of Ivan's tale, but I think it would be advisable to hear the story from another source before drawing any conclusions.—District Game Protector L. L. Everett, Newport.



You Said It, Bill

BRADFORD COUNTY — Hunters and fishermen are known for their tall tales, but here is a story that was related to me by a trapper in my district. It seems on the first day of the muskrat trapping season, this fellow was setting a trap. He still had his hands on the trap while placing it under water when he caught a rat. He took the rat out of the trap and proceeded to return the trap to the water and was fastening the wire to a stake when he heard the trap go off again. After taking the second rat out of the trap, the man set two more traps. You guessed it — upon checking the first trap he found another rat. Now it seems to me, this trapper's tale rates with the best I have heard.—District Game Protector W. Bower, Troy.

Modern Convenience

CLARION AND JEFFERSON COUNTIES—With the opening of Interstate 80 from Ohio line to Jefferson County, we are beginning to see more one-day nonresident hunters in our area than before. It seems they can run over, hunt for the day, and be back home that evening.—Land Manager J. M. Lavery, Clarion.

Problem

ERIE COUNTY—It seems to me that more and more of our violations are being committed by juveniles. This bothers me.—District Game Protector R. L. Meyer.

So . . . Explain, Dad

SNYDER COUNTY—I think I have one mixed up little boy. One day when I came home with a pheasant which I had shot on the Game Lands, he ran over to his mother and shouted "Hey, Mom, Dad shot a turkey!" Then when I dunked the bird into hot water to pick the feathers, he said, "What are you going to do, Dad, give him a bath?" — District Game Protector J. P. Shook, McClure.

Never Underestimate the Power . .

ARMSTRONG COUNTY—As Game Protectors we receive help from sportsmen and other interested conservation groups in the many programs the Game Commission has today. Some times we even receive help from people when we least expect it, as was the case with Deputy Game Protector DeHarpert. He received a call to pick up a road-killed deer near Goheer ville on Route 66. Arriving at the scene he found a very large buck deer. It was so big he was unable to get the deer up on his bumper rack. Deputy DeHarpert said he tried to look as helpless as possible to passing motorists, but all to no avail. Car after car passed him by. Finally one car stopped. It was occupied by three ladies who inquired if he needed any help. He told them of the situation and before he knew what was happening the ladies had the deer loaded on the car rack as Deputy DeHarpert watched speechless! — District Game Protector D. C. Madl, Kittanning.



CONSERVATION NEWS



Pymatuning Waterfowl Hunters Have Excellent Year

PYMATUNING Waterfowl Area hunters had their second best year on record in 1969, according to the annual report compiled by Waterfowl Management Agent Ray M. Sickles.

Hunters harvested 2416 geese from the Pymatuning blinds this year, compared to the record 2580 taken in 1968. An estimated 800 geese were taken outside the controlled shooting area for a total goose harvest this year of 3216. In 1968, hunters took a total of 3630 geese from the Pymatuning area.

Sportsmen also did well on ducks at the Pymatuning, taking 2304 from the controlled shooting area. By comparison, 2503 ducks were taken last year.

More than half of the ducks taken this year were mallards, while hunters also scored well on blacks, woodies, green-winged teal and baldpates.

Sickles said that a record 4012 hunters used the 40 goose blinds constructed and maintained by the Game Commission, compared to 3785 in 1968 and 3573 in 1967. Holders of goose blind reservations were selected from a record 24,248 applicants in an early October drawing. Each reservation holder was permitted to take three guests to his blind.

A total of 2612 gunners utilized the controlled duck shooting areas, compared to 2843 last year. The figures add up to a grand total of 6624 hunters using the Pymatuning controlled shooting areas in 1969, compared to 6628 in 1968.

Sixty percent of the hunters using goose blinds took a honker this year, compared to 68 percent in 1968.

The goose harvest age ratio this year was .815 juveniles to 1 adult, the lowest ever recorded at the Pymatuning and a considerable change from last year's ratio of 1 adult to 1.325 juveniles. The drop in the number of



PGC Photo

BAGGING A CANADA GOOSE is quite a thrill for most hunters. During the past season at Pymatuning, 4012 hunters took 2416 honkers.

immature birds indicates that the late-June snowstorm in the Hudson Bay area cut sharply into this year's hatching success.

The first migrant geese reached the Pymatuning this year on September 12, one day later than last year. The population climbed from 2800 on September 1 to 12,000 on October 1, and peaked at 15,000 from October 7 to October 11. Now there are about 8000

geese on the area, most of which are expected to winter over and provide a good breeding stock for the upcoming year.

There are also about 5000 to 6000 ducks at the Pymatuning now. A good supply of winter feed for waterfowl, plus the high concentration of birds on the area, adds up to a real good outlook for Pymatuning waterfowl in 1970.

A Determined Hunter

Russell (Rusty) Hoagland, RD 2, Bangor, Pa., shot a 7-point buck near his home on December 9 of the recent deer season. Ordinarily, this wouldn't cause much comment, but for over four years the 24-year-old man has been paralyzed from the waist down as a result of an auto accident, and he is confined to a wheelchair. This was the first big game taken by Mr. Hoagland. We want to congratulate him and wish him good luck in the seasons to come.



THE ALLENWOOD FIELD TRIAL, held on State Game Lands 252 in October, was won by Grouse Ridge Will, a setter owned by Dr. T. M. Flanagan, Norwich, N. Y., and handled by Tom Weidman, Mt. Upton, N. Y. Second place went to a pointer named Counterdrive, E. R. Uhlman and B. A. Taylor, Coatesville, owners, handled by Mr. Uhlman. Judges were H. A. Crane and W. B. McCullough.

Shotshells of Tomorrow

RESULTS FROM a research project initiated by ammunition and firearms producers through their trade association, the Sporting Arms and Ammunition Manufacturers' Institute (SAAMI), indicate increasing support for use of iron pellets in waterfowl shotshells.

In 1965, the Director of the U. S. Bureau of Sport Fisheries and Wildlife informed the leading American and Canadian makers of sporting firearms and ammunition that waterfowl losses caused by lead poisoning might shorten duck hunting seasons or force bag limit reductions. Since that time, ammunition and firearms producers have tried to find a non-toxic modification or substitute for lead in waterfowl shotshells.

Though lead's ballistic characteristics are universally recognized as the ideal element for shot in sporting ammunition, its toxicity threatens to limit waterfowling as a favorite recreational pursuit enjoyed by millions of American sportsmen. Dabbling ducks, such as mallards and pintails, ingest spent shot picked up from marsh and feeding ground bottoms. The lead pellets generate toxic fluids in waterfowl gizzards that cause debilitation resulting in starvation or loss through predation.

The Illinois Institute of Technology—Research Institute (IIT-RI) has conducted the research project with a \$100,000 grant from the ammunition industry. Biological test facilities and ecological consultation was provided in cooperation with the Patuxent Wildlife Research Center at Laurel, Md., with the Bureau of Sport Fisheries and Wildlife staff.

The project explored four general areas: 1) bio-chemical additives for lead that might render lead harmless in waterfowl systems; 2) lead/iron/plastic composites; 3) plated or coated shot; and 4) iron shot.

Early studies found that alloying

lead with other metals or coating it with plastics or inert metals did not prevent lead poisoning. Shot pellets made from lead powder bound with a water soluble adhesive also failed. "In short," Ralph Andrews, Chief, Section of Wetland Ecology, Bureau of Sport Fishers Fisheries and Wildlife, said, "no way was found to make lead acceptable."

Iron? It has its problems.

Currently available iron shot is difficult to produce in various shot sizes. Iron also erodes or "scars" gun barrels and deforms chokes. Neither characteristic proves attractive to hunters.

Fizzle? Not yet.

Could It Kill a Duck?

"Handmade" processing of super-soft iron indicated no adverse effects on gun chokes or barrels. But could it kill a duck?

Ballistic tests conducted at Patuxent Wildlife Research Center proved that shotshells with one ounce of No. 4 soft iron shot have almost identical "killing effectiveness" as comparable lead loads at "in-range" shots not exceeding 50 yards. In terms of shot-crippled birds, the tests indicated no appreciable difference between experimental iron shotshells and comparable lead loads. Evaluation of available data is continuing and a final technical report is planned for issue within the next few months.

While economically and ballistically acceptable iron shot is now possible, American sportsmen and conservationists should realize that it is not immediately available. Leading ammunition manufacturers are hastening its availability to duck and goose hunters.

Meanwhile, the lead shot accumulation of more than a century of waterfowl hunting lies scattered across marsh bottoms and feeding areas.—*Richard Wentz in the National Wildlife Federation's "Conservation News."*



TOP WINNER IN recent GAME NEWS contest was Deputy John Salinsky, right. Deputy Nicholas Pinto, left, took third place in the deputies' division. Prizes are presented by Northeast Division Supervisor N. J. Molski.



JOSEPH LEMME, of Pocono Summit, Pa., with his fine 13-point buck taken during archery season. This is the fifth white-tail taken by Mr. Lemme in 15 seasons of bow hunting—a better average than many gun hunters.

ROGER LATHAM, OUTDOOR COLUMNIST for the "Pittsburgh Press" and former Chief of Research for the Game Commission, was named "Outdoorsman of the Year" at Winchester-Western's recent Writer's Seminar Banquet in Lambertville, N. J. Here he is being congratulated by PGC Executive Director Glenn L. Bowers as WW Vice-President William Talley presents him with a Theodore Roosevelt Commemorative Model 94 Winchester rifle.





HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator

Firearms, Knives—and Tomahawks, Too!

ANY FEMALE hunter safety instructor who thinks she cannot become capable in handling sporting arms should take a look at Yvonne LaGana's accomplishments. The only female instructor in Cambria County, Yvonne, who lives in Ebensburg, is perhaps the most active one in Pennsylvania. She certainly has shown the way for others to follow in shooting and hunter safety training.

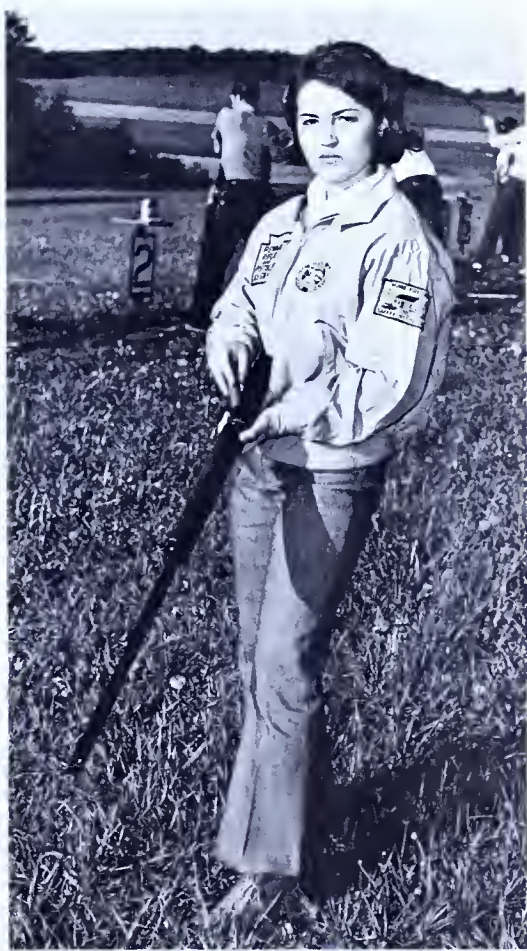
Yvonne has been assisting her father with shooting instruction for some years. She has certified NRA marksmanship ratings with rifle, handgun and shotgun, as well as recent instructor certification in hunter safety training, obtained when she reached 21.

Shooting is not new to Miss LaGana. She has handled a 22 rifle cut down to size since she was five years old. At different points during her training, she has received the Ranger and Safe Hunter awards, as well as those for marksmanship, sharpshooter and expert with the smallbore rifle. At 15, Yvonne won the marksmanship pennant for shotgun shooting, breaking 119 of 125 clay birds—darned good, considering that most of us can't come near that score.

Some women and experienced teachers who participate in shooting programs are reluctant to present hunter safety instructor training. Their biggest fear is that they do not have enough knowledge about sporting arms, different types of actions, etc. They should have no fear. Hunter safety is basic, whether it involves use of the bow or any type of sporting

firearm. The more times you present a course, the better it will become, and this is the thing that's important to both student and instructor.

What prompted Yvonne's interest was her dad's encouragement, even



YVONNE LAGANA, Ebensburg, began rifle shooting, with proper supervision, when five years old. She now instructs others in both rifle and shotgun usage.

before she was a teen-ager. She often listened to her father instructing classes. Peter LaGana has been teaching youngsters from the Ebensburg area how to handle firearms since 1954. Recently, both father and daughter presented the minimum four-hour safety course sponsored by the Ebensburg Jaycees. A total of 196 boys and girls took their courses.

And if you think that's all, listen to this. Maria LaGana, Yvonne's 16-year-old sister, also assists with fancy shooting exhibitions. She too is adept with

firearms, and both girls have gained outstanding accuracy in throwing knives for part of their performance. To top it off, they use tomahawks for part of their exhibition — throwing these also with unusual accuracy gained through many hours of practice.

How about that? Where else can you get hunter safety training from a combination like this one? When you young hunters complete the course, make room for some of us so-called expert adult gun handlers. We'd like to participate and learn a little more.

They're Not All in the Woods

At times, the circumstances of a given firearm accident make one wonder. For instance, during the past deer season, a man in the western part of the state left his farmhouse to go hunting. One of his cats followed him out the door, and he took his loaded rifle by the barrel and swung the gun at the cat in the fashion of a golf club, trying to chase the cat away. The stock hit the ground and the rifle discharged, the bullet striking the man in the abdomen, seriously wounding him. The man later told the investigating officer that he keeps his farm posted "because there are a lot of *kooks* in the woods."



THE LYCOMING COUNTY SPORTSMEN'S ASSOCIATION assisted with a hunter safety training program put on by District Game Protectors Robert Sinsabaugh and Dave Brown, during their annual field day.

Snow

By Wilbert Nathan Savage

DEPENDING on individual circumstances, snow can be many things to many people. To the lone hunter hopefully trailing a wounded buck in failing light, it can play a vital role; to the farm boy eagerly tracing a weasel or rabbit tracks, it provides the thrill of a magic map; to the countryman out for a casual midwinter stroll, it presents assorted messages which may or may not require discerning translation.

In valley bottomland one can often detect tracks of various creatures—from ringneck to raccoon, mink to muskrat. Woodland slopes are frequently etched by the telltale travel imprints of mice, squirrels, rabbits, foxes, deer, grouse—perhaps even a wild turkey or black bear. In the soft snows of March you're apt to notice footprints of the skunk, the possum, and maybe a gaunt old groundhog.

The tracks of mice, squirrels, rabbits, or other small wildfolk may suddenly end before the observer's eyes—mute testimony to a grim woodland happening in which a predator overtook its prey. On even a brief jaunt afield the practiced eye may put together token bits and pieces of snowscape evidence that round out one outdoor drama after another—pursuit, stirring encounter, escape, witless blunders, death, play, crafty evasion, romance, and more. Without the distinct record written in snow, all signs of episode action would of course be lost.

There is no quietness like the hushed sound of snow falling. While Keystone territory does not annually experience

the smothering average snowfall that blankets some states, there usually is a satisfactory supply.

Children and dogs eat it and romp in it; men continue to suffer heart attacks while shoveling it; lost hunters have perished in it. Some creatures tunnel beneath it; many winged folk flee before it; otters slide in it; deer paw in it; turkeys and ringnecks scratch in it; squirrels fill storage cavities against the rigors its presence can bring about; and hibernators systematically shun it. Snow is, indeed, a many-faceted substance.

Popular With Many

The snowmobile crowd and the ski enthusiasts are paralyzed without it; the bobsled and toboggan bugs joyously wallow in it. Trappers treasure it as they ponder the practicality of new snowshoes, and youngsters pray for the magic of a traditional White Christmas as they contemplate the measurements and supremacy of new sleds. Snow can be a wholesome delight and swiftly create a photographer's dream as it brings into being a capped and cloaked wonderland of enchanting beauty.

But define its exquisite charm and its recent economic impact as you will—the feathery element has another side. It can be an immobilizing nuisance, a frustrating temper tester. The hunter who is stuck in the stuff three hours from home on a hunting camp road exactly 10 miles from a telephone, could do with a lot less of it—and if you were to insist on telling him then and there about the wonders of

snowflake geometry he'd probably punch you in the nose!

Snow can wear out men and equipment as it piles up on highways, then melt and subsequently originate a raging flood. It may fall in great volume where it isn't reckoned to be a problem, and whimsically pass up areas where heavy snowfall is a routine occurrence. Even while it is fashioning a superb scene of decorative splendor, it sometimes overloads shrubbery and timber and power lines to a point where it gets out of hand as a force of destruction; and for some, then, the magnificence of the setting rapidly fades.

Capricious

Snow may go on a further capricious spree by teaming up with gale-force winds, building drifts where it hasn't drifted in years; and then skip a belt that has long been known as a notorious drifting zone. Snow provides valuable insulation against deep-freeze damage to vast areas of wild and domestic vegetation. But even while obliging with this beneficial protection the very scope and depth of its accumulation sometimes casts a shadow of peril on certain forms of wildlife—particularly, the quail.

One of the most severe snowstorms in Pennsylvania history began on the night of November 25, 1950, and quickly blanketed western counties. Within the next 18 memorable hours scores of towns became isolated when drifting snow closed roads faster than modern equipment could open them.

New all-time 24-hour snowfall records were set at Erie (26.7 inches), and Pittsburgh (24.1 inches). Hundreds of automobiles were abandoned and hundreds of roofs collapsed from the weight of the snow. The average snowfall in the western part of the state was 29.5 inches. Although the bulk of the snowfall occurred in western counties, heavy accumulations also were recorded in the headwaters region of the Susquehanna's West Branch; and storm damage in the

Clearfield-Elk-Jefferson County area amounted to more than three million dollars.

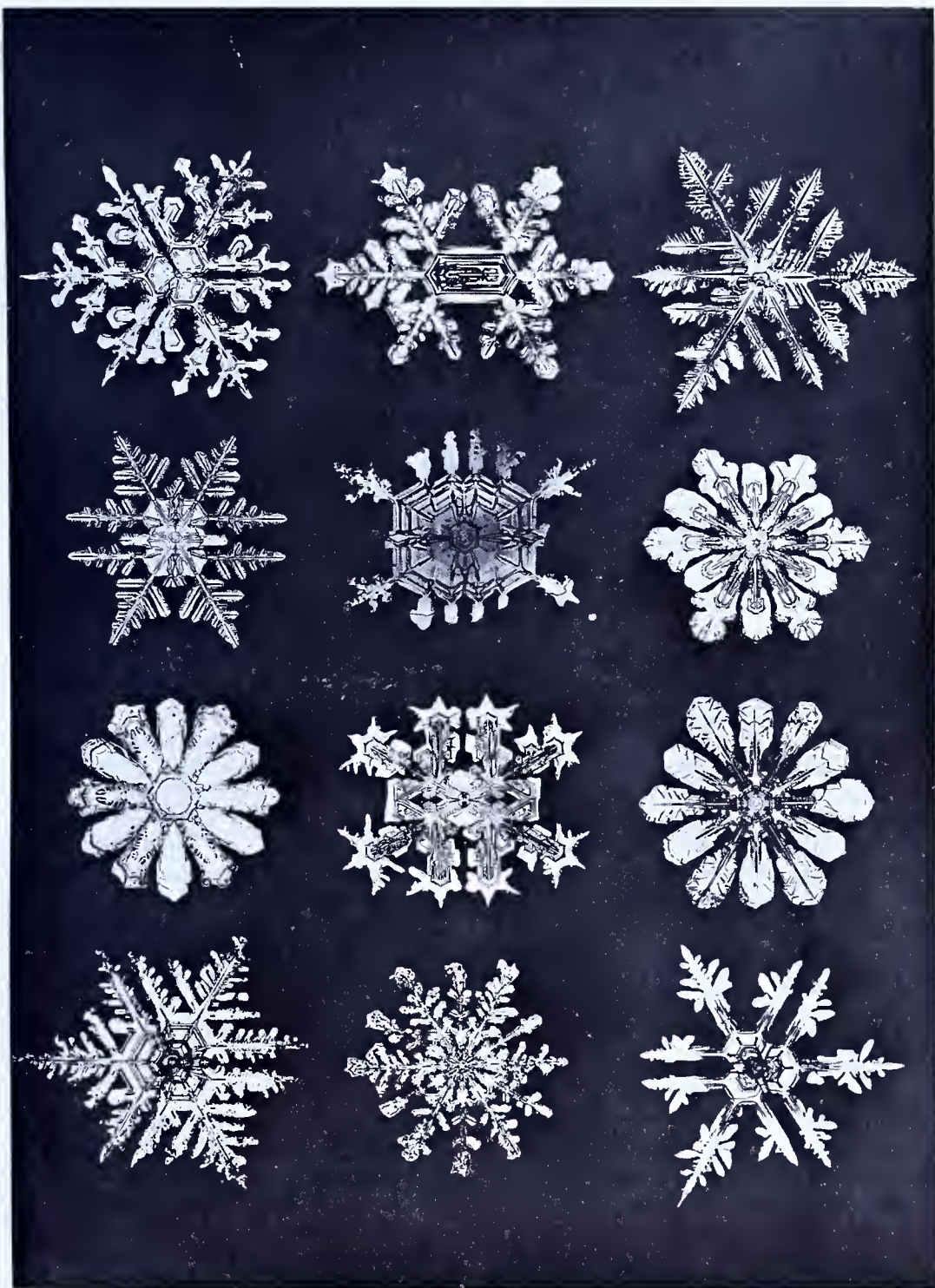
Another fierce snowstorm swooped down on Pennsylvania and other eastern states on February 15-16, 1958. The Commonwealth's eastern, northeastern and central counties were hardest hit, with the Poconos region in Wayne County receiving a record 48-inch snowfall! Many hundreds of the state's schools were closed and scores of highways were thoroughly clogged—including a section of the Pennsylvania Turnpike east of the Susquehanna. Of course this resulted in great numbers of motorists being stranded. More than 1000 marooned travelers jammed the little town of Oxford in Chester County. Blizzard-type winds swept the snow into drifts up to 25 feet deep, and 34 Boy Scouts had to be rescued by helicopter from a campsite near Millersburg.

Granted that snowflakes in great volume can cause havoc and inconvenience aplenty, the fragile crystals have nonetheless charmed the human species for centuries. In creating various products—textiles, jewelry, china, glass, wallpaper, Christmas cards, ornaments, etc.—man has often borrowed freely from clever snowflake designs which he has never quite managed to originate.

In examining the structure of representative snowflake patterns we find them basically simple, yet strangely complex. One feature is commonly shared: they almost always have six sides. Does this similarity factor guarantee the existence of numerous absolute duplicates? Not at all. According to the best authorities on the subject—including the U. S. Weather Bureau—no one has ever found two snowflakes that were exactly alike. Certainly the difference may be microscopic in nature, but a recognizable difference just the same.

There is nothing abrupt about the birth of a snowflake. It starts its step-by-step origin as a droplet of cloud moisture so tiny that a million of the

Typical Snowflake Designs



THESE MICROPHOTOGRAPHS OF SNOWFLAKES show some of the representative petaled and needle-branch types. It is believed that no two snowflakes are ever exactly alike. Though basically they are simple, in detail each is amazingly complex—and all are beautiful.

particles may have to fuse themselves together before the snowflake becomes heavy enough to fall at an appreciable rate. Completion of this structural achievement is estimated to require at least 10 minutes when upper air temperatures favor vapor crystallization.

In the snowflake's first stages of development, very small prisms or columns are formed so that length exceeds diameter by three to five times. So wispy that they are difficult to see with the naked eye, these needle-like ice crystals continue to grow until they become tiny hexagonal plates of ice. The points grow a little faster than the edges that separate them, and as soon as these minute projections are extended the feathery formation begins to take shape. The growth habit of the normal six-sided snowflake (governed by a natural law which no one really understands), is such that outermost needles extend at precise angles of 60° or 120° with one another—a phenomenal shaping process that probably has been carrying out its geometric design functions for millions of years.

If growth is uniform as the falling snowflake “builds” its body, a perfect hexagonal form will be created. But flawless flakes are far from common. Collisions and faulty growth patterns account for many imperfect flakes. It has been determined that snowflakes descending from low clouds generally are large and branching; those from high clouds are smaller and more compact.

Hard to Photograph

It is difficult to photograph a snowflake before it melts. The first person ever to achieve this feat was a farmer named Wilson A. Bentley, born near Jericho, Vt., in January, 1865. By the time he was 20 Bentley had perfected the technique of photographing snowflakes. His “studio” was a cold, rough shed. During the course of a heavy snowstorm he would isolate and photograph 50 to 75 snowflakes. Capturing

his models on a small tray covered with black velvet, he often exposed himself to numbing blizzard conditions.

In 20 years Bentley found only 1300 snow crystals that were absolutely perfect, but during his lifetime he photographed more than 3500 flawless snowflakes. He kept careful records and wrote several books dealing with the wonders of snow crystal growth and design. But during 50 years of examining snowflakes, he never found two that were structurally identical.

Positive and Negative

Each water molecule in a snowflake's body has two hydrogen positive “terminals,” but only one oxygen negative terminal. These polar molecules link together like so many submicroscopic magnets—an electrical connection called a hydrogen bond. The joining process somehow creates characteristic patterns as the positively charged hydrogen side of one molecule links up with the negatively charged oxygen side of the nearest neighbor.

What a fascinating exhibit of fairyland arrangements this nature-controlled marvel-method automatically brings forth! Like miniature samples of fanciful motifs, snowflakes model a wide variety of types—Gothic patterns; flowered rosettes; inlaid designs; the “cuff-button” doublet coupled to a columnal needle; twelve-petaled “cut-outs”; delicately spoked “wheels”; lacy stars made up of micro-perfect hollow tubes; three-way branching filament tips set on slender bars; and many more.

Probe into the unhurried but thorough and intricate mechanics of snow in the making and you're bound to become better acquainted with the stuff that can generate an assortment of emotions. But you don't have to rush further inquiry into the subject: it's a pretty safe wager that the frigid substance will continue to make its seasonal appearance for millions of years.



WHEN THE WEATHER IS COLD ENOUGH to require insulated boots, heavy trousers and wool jacket, it's also time for heavy underwear.

Why Not Stay Warm?

By Les Rountree

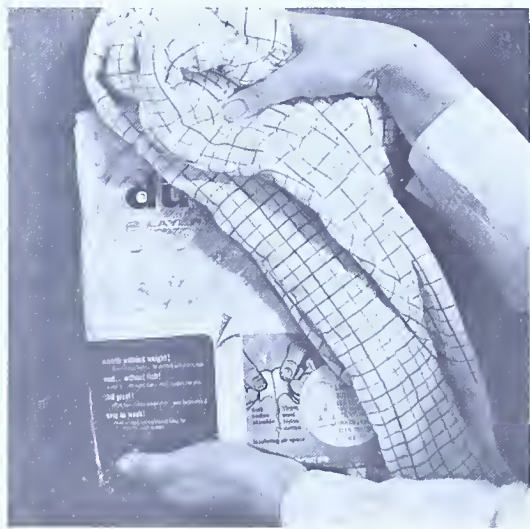
I'M SURE WE all know someone who says, "I never get cold." This is the character who bounces around during the winter with a pair of light khaki trousers and an equally flimsy jacket, minus any kind of long underwear. I'm equally sure that most of us do not have that secret inner thermostat that automatically regulates our body heat. We've got to have something next to our skin that keeps us reasonably comfortable. The subject is long underwear, ladies and gentlemen, and it's just as important to you campers as it is to the hunter who waits on a deer stand all day or the waterfowler who tests his endurance in a duck blind.

Pennsylvania is not usually thought of as an arctic climate but you natives know that any place north of the mid-

point of our Commonwealth can be darned cold even during the summer months. It is interesting to note that freezing temperatures have been recorded during every month of the year in several Pennsylvania counties. Any camper who doesn't carry some sort of long johns with him during all but the three summer months is asking for a chill. In fact, it's not a bad idea to include a suit of lightweight long underwear in your summertime duffle too. For chill mornings (and you'll have some) a pair of long cotton drawers feels mighty good when you're rustling around during the breakfast hour. You can always take them off later, and so what if someone casts nasty comments about your ability to "take it"—you'll have the last laugh. You'll be warm while they're shivering

before that morning sun thaws things out.

Winter is a great time to camp. The snow-covered woods are beautiful and campgrounds are not nearly so crowded. The only problem is keeping



UNDERWEAR HAVING TWO layers, the inner one cotton, the outer wool, are useful for the person who cannot stand pure wool against his skin.

warm. That's what this underwear thing is all about. I'll bet anything that campers who really love the game will find that winter camping is just as much fun as the summer variety if they'll give it a go.

Our grandfathers and, yes, our fathers too, knew only two kinds of long underwear — wool and cotton. There were no blends of orlon, nylon and such man-made fabrics. Goose down insulation had yet to be developed and acrylic fibers were totally unknown. Grandpa put on cotton longies in the fall, changed to wool around Thanksgiving time and switched back to cotton about April Fool's Day. All things considered, he stayed pretty warm. We went through a long period when it was not considered fashionable to wear long underwear at any time and a lot of us became very cold. Unfortunately, it took a war and a lot of GI's getting cold to rediscover the values of long

underwear all over again. A lot of experimenting was done with blends of materials and new ideas in keeping warm were the result. Today's outdoorsman has millions of dollars' worth of research going for him, and if he's not comfortable in all temperatures he can blame only himself. Every human body has its own cold tolerance level and one has to choose undergarments that suit his or her requirements.

Down's at Top

At the top of the list for ultra-cold comfort are the goose down undersuits. These are bulky looking but in use they are not cumbersome at all. The secret of goose down warmth is the millions of trapped air chambers between each two feathers. The quilting, of course, adds even more artificial air pockets and prevents the down from shifting to one spot. The down-filled suit is really warm! So warm, in fact, that many persons cannot wear such an outfit if they do much walking. For prowling around a campsite at daybreak or sitting motionless on a deer stand for hours, they can't be matched by anything else.

The down suit also makes an ideal sleeping outfit if you're one of those persons who cannot stand being zipped up tight in a sleeping bag. Because body processes slow considerably when you are asleep, down underwear can be the ideal pajama even during the so-called warm months. When daytime activity starts, the down jobs can be swapped for something a bit lighter. For active hiking, woodchopping or other strenuous activities, the pure down undergarment or outerwear will prove too warm for most individuals. If you don't have the



chance to change into something lighter, open the top of the jacket and let a little air circulate if you feel perspiration start to form. When you stop to rest, zip it up again.

Just as light but not quite so warm are the acrylic fiber underwear suits. These man-made materials don't have quite the insulating qualities of down but are not so expensive, and for some of us who do not have such "cold running" systems may be even a better choice. Like the down suits, the synthetic filled ones come in various weights, which means temperature range. Again, these suits are not perfect for all kinds of outdoor activities. The more you exert, the warmer you get. While down is the answer for the zero weather excursion, the acrylic fiber-filled suit is probably a better choice for most of us. With a suitable outer garment these suits will keep you warm on most winter days. This usually means a thermometer range of 15 degrees to the mid 30s. In addition, the suit will do good duty as sleep wear in most winter-rated sleeping bags. Fortunately, for the ladies mostly, these sateen-quilted under outfits come in practically any color and are quite stylish. Men too will appreciate the fact that quilted underwear is made in men's styles that feature more serviceable colors than the old putty shade that was once a standard. Quilted socks, made from the same material as the underwear, also are available. They make fine foot warmers in a sleeping bag or to wear around inside a tent on frosty mornings and evenings, but I don't know how in the world anyone would ever get them inside a boot.

Waffle-Weave

Next we have the "waffle-weave" insulated underwear. It isn't listed in this position because it's necessarily warmer than some other types of underwear, but because this type of undersuit has enjoyed a long span of popularity. For the active outdoorsman or outdoor worker it seems to

cover a long list of requirements. As with the quilted suits, these are usually sold as two-piece outfits—a much better way, I think, to buy long underwear, since you can get a better fit if you happen not to have an average build. Then, too, the bottoms usually wear out before the tops and a replacement costs only half as much.

The real advantage in the waffle-weave is its porous construction. In a way, it breathes with your body, allowing excess moisture and heat to slowly escape, and keeps you comfortable in all but the most extreme conditions. It is not the ideal suit for the slow mover on extra cold days. This type of construction requires that some movement occur or it won't work properly. The body has to keep heat transferring from the inside to the outside for the suit to do its job. For ordinary winter camping, small game hunting during 30-degree days and such activities as snow shoveling and ice skating, the waffle weave suit is



"ITCHY-SCRATCHY" long johns—heavy-weight models of pure wool are still the top favorite with many old-time hunters who spend much time out of doors.

perfect. It flexes well with all body movements and, since it contains no wool, keeps its shape with repeated washings.

Also in this mid-range comfort zone I'll place the double-layer type of two-



AMONG THE NEW STYLES OF WINTER UNDERWEAR are these man-made acrylics. They are excellent for all but the oldest outdoor activities.

piece suit. This is the one the skiers like since its form-fitting properties work out perfectly with skin-tight ski fashions. This underwear simply consists of two layers of material, one wool and one cotton, bonded together. The cotton side is next to the skin. This is a perfect arrangement for the person who may be sensitive to wool but likes the warmth it offers. As with most materials, wool can be woven in many ways. When the weave happens to be a rather loose fuzzy affair, good insulation results. It will in fact keep you warmer than a close knit that is warm for awhile but then becomes clammy after some perspiration is absorbed. These two-layer suits can be had in about any color and for the ladies . . . well, the sky's the limit. Checks, stripes, solid colors and polka dots and flowers are just some of the designs available.

If none of these newfangled underwear ideas interest you there is always the tried and true wool long john (for those who just can't break with tra-

dition). While the modern versions of the wool one-piecer usually have some percentage of other material blended in to make shrinkage less of a problem, you still can buy 100 percent rash-giving wool if you just have to have it. In fact, one manufacturer who still peddles this staple calls his product "itchy-scratchy long johns" and that describes them perfectly. I happen to be a bit nervous about wool next to my bare skin and the thought of wearing this kind of underwear drives me right up the wall. I'll take my wool mixed with a little something. But for those who can wear it (and apparently there must be quite a few) the abrasive action on skin does indeed keep circulation moving and the "itching and scratching" helps to keep you warm.

I don't mean to condemn wool because as an early morning tonic slipping into a toasty suit of wool underwear greatly improves your mental outlook on the winter scene. There is a certain psychological comfort in-

volved as well in being reinforced against the chill of a nor'easter by wool next to your skin.

For cool to mild weather, cotton long drawers are the answer. To some it might seem like splitting hairs to decide on some April day that the time has come to change from something heavy to something light. And it might be. But I'll bet you've all experienced times during the spring and fall months when summer underclothing just didn't feel like it was the thing to have on and yet winter-weight undergarments seemed like too much. Cotton long drawers are the answer and the smart campers of the Canadian bush country carry more underwear with them than any other clothing item. The esthetic advantages of a clean change of underwear is not the only consideration here. They want to be comfortable and long underwear in two or three weights is the best way to guarantee it.

With today's pretty colors and high style designs, underwear, the serviceable winter kind, is very comfortable to wear. Two-piece combinations and proportion scaled one-piece suits are a far cry from what was available when Grandpa wore the trapdoor models almost all year. If some kind



EVEN SMALL GAME hunting often has wet or chilly days, and the lighter weights of long underwear are chosen by many men who know it's senseless to be cold in the field.

of long john is not included in your camping wardrobe why not add some? You may become brave enough to try winter camping and you may find that those early spring and late fall safaris are a lot more comfortable too.

What Else?

According to the *Washington Post*, a Navy admiral aboard a submarine 50 miles off San Diego and 2450 feet down, peered through a porthole to gaze at the wonders of the undersea world. "The first thing he spotted, two feet away," says the Navy, "was a beer can."

GAME NEWS Circulation Tops 200,000

The January, 1970, issue of GAME NEWS went to 201,532 subscribers, topping for the first time the goal of 200,000. It is believed that no other state conservation magazine reaches so many readers. It is interesting to note that of this total 36,525 copies went to out-of-state subscribers—largely persons who have had the opportunity to hunt in Pennsylvania and want to keep in touch with Game Commission programs, the hunting situation, etc., here. To say that we are grateful to our longtime subscribers for being so faithful, and to our new ones for their interest, is putting it mildly. We do appreciate the fact that you like GAME NEWS, and want to say thanks to every one of you.



MEN'S FREE STYLE CHAMPIONS: 1. Richard Branstetter, Jr., U. S. A.; 2. Hans Wright, Australia; 3. Kyoesti Laasonen, Finland.

World Field Archery's . . .

First Edition

By Keith C. Schuyler

Photos From the Author

THERE IS A special value that is a compound of sentiment, special effort and newness in any first edition. Consequently, everyone who attended the first World Field Archery Championship Tournament at Valley Forge on August 18-19 last year, whether participant or spectator, will always be a part of that great event.

Everything was new. Every first place was a new world record. The only thing commonplace or old about the tournament was the spirit of fellowship that emanated from the shooting line and the grandstand and which pervaded the entire tournament.

The one who will best remember the tournament is Dick Branstetter, of

Creve Couer, Ill., who posted the highest score of the tournament to win the free style event with a 1030 and a comfortable margin of 28 points over Hans Wright, of Australia. Another who will have special memories of the tournament is Pennsylvania's Stephen Lieberman. Although Steve had to settle for fifth place, he was only 39 points off the pace and missed tying for fourth with Derek Gunson, of Great Britain, by one point. Steve was also the only United States contestant who qualified to shoot in both the World Target and Field Championships. He was twenty-second in the bullseye event in a field of 113 target shooters.

As anticipated, United States shooters grabbed a handful of top places. But it was Irma Danielsson, of Sweden, who walked away with the gold medal in the ladies' free style division. Her countrywoman, Kerstin Beije, took a safe second, well ahead of Janet Ashbaugh who claimed third for the U. S. Barbara Brown, of Connecticut, took fifth in a field of six.

There were only four shooters in the ladies' bare bow division, and Rae Dabelow won handily with a 642, holding a 71-point lead over Ingegard Grankvist, Sweden. LaRue Bruce claimed third place for the U. S. A. Consequently, Sweden and the United States divided the honors, with Sweden having a slight edge with one first and two second places to this country's one first and two third places.

However, the United States men had a strong edge with Branstetter's first place in the free style division and a one-two position in bare bow. Warren Cowles, of Herndon, Va., was well out in front in the bare bow section with a 910. His nearest competitor was Emil Lehan, who claimed second place for the United States with an 894. Finland's Pauli Mertanen was well down the line with an 852 for third place.

Lieberman was only 12 points behind Branstetter in the hunter's round but he fell down to seventh place in the field round.

Much Credit Due

Certainly a large share of the credit for the successful tournament goes to the Keystone Federation of Bowhunters, who laid out the field courses at Valley Forge. In the knowledge that such an event was certain to bring a host of spectators, members of the Federation provided both shooting and observation facilities that deserve the highest commendation. Utilizing an area of the park west of the target field, the group laid out paths, target and spectator areas that could have been produced only by a combination of knowledge and hard work. The



DURING THE MEET, the Valley Forge range was international territory and the FITA flag was flown above it.

course was a real challenge, with targets at various angles among the trees as well as open field shots. There were some especially interesting layouts along and across the creek which meanders throughout the area.

After the scorching weather of the World Target Tournament which preceded the field event, heavy rains on the first day of field competition brought mixed emotions. It cooled off everything but the scores, although it did provide problems with wet tackle as well as uncertain footing.

Strong breezes which followed the inclement and often threatening weather made shooting difficult in the open areas. The strong gusts undoubtedly had their effect on the total scores posted.

Only 13 nations of the 27 who participated in the target events stayed on for the field tournament. However, this was understandable. There was the problem of extending vacations or time taken from work, as well as lack of previous participation in such shooting. Many of the participating members of the Federation Internationale

de Tir a l'Arc, which sponsors the tourneys, do not engage in field shooting. It is relatively certain that the next tournament will bring heavier attendance and increasing competition.

The United States obviously had an edge in this event since field shooting is even more popular than target shooting in this country. Some of the excitement which attended the target tournament was missing in the field even though the event with its ups and downs provides a much greater variety of interest. But since scores are not known until the day's part of the event is concluded, spectators were not able to keep track of the leaders except on a day to day basis.

Walkie-Talkies

Communication with the registration desk which served as headquarters was maintained with walkie-talkies. Six officials in the field were in constant touch.

Each target station had the distance, in meters, and shooting information well posted. Also, the paths for spectators were well marked and protection within safe boundaries was effected by nylon roping.

Another first was established at the World Field Tournament when the new FITA field round was shot officially for the first time. This round was adopted at the Federation Internationale de Tir a l'Arc Congress in Oslo, Norway, in 1961. Like the NFAA field round, it utilizes a 14-target course as one unit with a full round being two units. Four faces are used and all are in centimeters. The faces are 60, 45, 32 and 15 centimeters in diameter. All distances are measured in meters. Closest distance is six meters and the farthest is 75. For comparison to the distances used in the regular U. S. field courses, six meters is the equivalent of 6 yards, 1 foot, 8 inches. Seventy-five meters equals a whisper over 82 yards. In the field round, four arrows are shot at each station, with a total of 112 permitting a perfect score of 560.

Distances are not posted although all stations are numbered. Instinctive and free style shooting are recognized in separate classes.

In the FITA hunter's round, no two arrows are shot from the same stake. The same four face sizes are used in the field round, but they are black with a white aiming spot. Animal figures, with superimposed field faces outlined over the figure, are permitted. Shooting distances are somewhat different with the total of 14 targets equalling exactly 1000 meters. Each archer shoots three arrows at each of the 14 target layouts, and each arrow must be shot from a different post or stake.

Tentative plans were made by the FITA committee to hold future field archery world tournaments on even years apart from the target tournament. The next event would be held in Sweden in 1970 if present plans are carried through. Although the facilities available made it quite practical to hold both world tournaments at the Valley Forge site, and the nationals came immediately after, it was a strain on the personnel who did so much to make the tournaments a success. There were many in and out of archery who gave unselfishly of their time to keep archery's best foot forward at the sacred shrine that is Valley Forge.

Whatever the future of such tournaments, this first one will always leave its mark in archery history. The finale, when member nations paraded as a league of nations combined in peaceful pursuit, was another heart-pounding spectacle that played upon the emotions. When the FITA flag was lowered to again return the grounds to the United States, it was impressed upon everyone that, during the World tournaments, no person nor nation had any claim over the other except by virtue of the scores shot with the bow and arrow. It would be impossible to give individual credit to those who contributed to the event. However, because this was the first, scores up to the tenth place in each event are be-



IVO SIMONETTI OF ITALY; ROMAN LEJARAZU, Mexico; Pauli Mertanan, Finland; and Toon Verbruggen, Holland, watch while their scores are recorded by Kermit Palomaki of Collegeville. Though the Field Championships drew less entries than the Target Championships, the meet was a great success.

ing posted here for all time. You may wish to preserve them for comparison with future events as the World tournaments again go overseas. One thing certain, wherever they go, the United States will follow them. And, it is a fair certainty that Pennsylvania will continue to provide top talent for the events.

Although Pennsylvania withdrew from the National Field Archery Association, field shooting holds a special interest for many state archers. The range and the rules for the international rounds are somewhat different from the standard field event which has become popular across the country, but it is a simulation of hunting. With the Commonwealth continuing to lead the nation in number of bow hunters, recognition of field shooting on an international level is certain to build even more competitive interest here.

It was a surprise to learn that many

member nations have no bow hunting. For example, South Africa, known throughout the world for its many big game species, has little or no bow hunting. That country of over 16 million people has slightly more than 500 archers. England, which taught America about the bow, has no deer hunting for archers and little else. Consequently, field shooting in many countries must develop just for its own sake. There is a strong possibility that such a development may lead to the introduction and popularity of hunting with the bow and arrow before too long.

For that matter, Canada has shown little real progress in the bow hunting sport despite its reputation for a variety of big game species.

Consequently, it was most appropriate that the first world field tournament be held in the United States. It was further fitting that Pennsylvania should host the event at Valley Forge.

FIRST WORLD FIELD ARCHERY CHAMPIONSHIP

AUGUST 18 and 19, 1969

Position	Name	Country	Hunter's Round	Place	Field Round	Place	Grand Total
FREE STYLE—LADIES (six archers)							
1.	Irma Danielsson	Sweden	93-409	3	111-495	1	904
2.	Kerstin Beije	Sweden	98-430	1	96-406	2	836
3.	Janet Ashbaugh	U. S. A.	96-408	4	95-391	4	799
4.	Pinkko Hyrylaeinen	Finland	81-357	5	102-400	3	757
5.	Barbara Brown	U. S. A.	97-411	2	81-307	6	718
6.	Joyce Kiddy	G. Britain	82-348	6	87-345	5	693
BARE BOW—LADIES (four archers)							
1.	Rae Dabelow	U. S. A.	73-297	2	87-345	1	642
2.	Ingegard Grankvist	Sweden	77-291	3	76-280	2	571
3.	LaRue Bruce	U. S. A.	78-318	1	66-252	4	570
4.	Dell Roache	Australia	79-287	4	72-272	3	559
FREE STYLE—GENTLEMEN (first 10 places)							
1.	Richard Branstetter, Jr.	U. S. A.	108-504	1	111-527	1	1031
2.	Hans Wright	Australia	108-496	3	111-507	5	1003
3.	Kyoesti Laasonen	Finland	105-493	4	111-509	3	1002
4.	Derek Gunson	G. Britain	104-484	7	111-509	4	993
5.	Stephen Lieberman	U. S. A.	107-497	2	109-495	7	992
6.	Don Jackson	Canada	108-492	5	109-491	8	983
7.	Raymond Baillon	France	106-454	16	111-511	2	965
8.	Pertti Laaksonen	Finland	103-471	9	109-489	9	960
9.	Tommy Persson	Sweden	107-489	6	104-460	23	953
10.	Albert Kiddy	G. Britain	101-469	10	107-479	14	948
BARE BOW—GENTLEMEN (8 archers)							
1.	Warren Cowles	U. S. A.	102-448	1	106-462	1	910
2.	Emil Lehan	U. S. A.	99-433	5	105-461	2	894
3.	Pauli Mertenan	Finland	101-447	2	97-405	4	852
4.	Rafael Padilla	Mexico	98-426	6	100-406	3	832
5.	Stig Dahlberg	Sweden	99-435	4	98-384	5	819
6.	Leif Berggren	Sweden	103-445	3	91-369	6	814
7.	Arthur Andersson	Sweden	94-410	7	85-345	7	755
8.	Aarre Hyrylaeinen	Finland	83-329	8	74-276	8	605

The Problem Gun

By Don Lewis

Photos by Helen Lewis

"COULD YOU OFFER some advice or make some adjustments that would help me get my rifle sighted in?" the man at the next benchrest asked. "I've shot over a box and a half of shells, and I can't get the rifle to shoot where I want it."

I got up and walked over to the bench and asked the man to fire another shot. It took just a few seconds to detect several problems that were responsible for his poor shooting. To make sure that I had observed correctly, I asked him if I could shoot a couple rounds. He was very happy to turn his rifle over to me. My observations had detected far too much eye relief, and his knuckles had turned white when he tried to squeeze off the shot. I checked the trigger pull before sitting down, and it must have been close to eight pounds. Not only was the scope too far forward, the reticle



AL COVALO of Rural Valley, Pa., finds his M12 Winchester pump a top choice for grouse on Pennsylvania's ridges.

was more than 10 degrees from being square. He looked a little bewildered when I handed back the rifle without firing a shot.

"Aren't you going to shoot it for me?"

"I'd only be wasting your shells to shoot your rifle without first correcting several bad scope mounting mistakes."

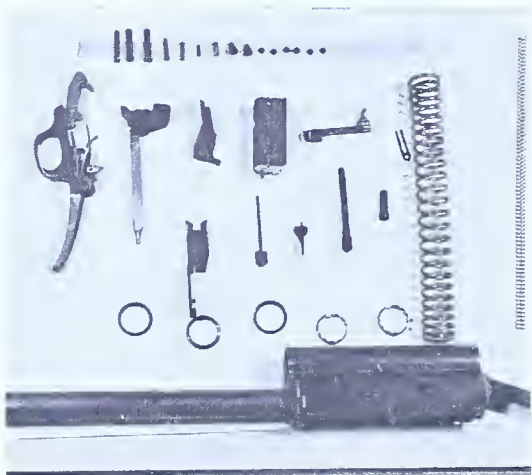
I took several minutes to explain why I thought he was unable to get his rifle zeroed in. I showed him a couple that I had, and he admitted his rifle was far from being what it should be.

"Could you make some of these corrections here at the range?"

"I can mount the scope properly, but the trigger pull will have to be

adjusted by a good gunsmith," I answered.

"Anything you can do now to help will be more than appreciated. Buck season starts in two days, and I won't have time to get the trigger fixed, but I will be very happy to just have the scope on properly."



GUNSMITH STRIPPED THIS Browning autoloader farther than most owners would, but this gave opportunity for a complete cleaning and good examination.

I dug a couple of screwdrivers out of my shooting box and remounted his scope. His face beamed when I set the eye relief and eye focus for him and squared up the cross hair reticle. The scope was now on the rifle exactly to suit him. Even with the hard trigger, he finished off the box of shells by staying under three inches at 100 yards.

I could relate more than a hundred cases from personal experience where hunters failed because of a problem gun. At one time or another, I've seen problems with nearly every part of a rifle or a shotgun. The thing that I still can't understand is that most of these problems could have easily been taken care of. A turkey hunter with a rifle/shotgun combination had a severe eye relief problem. He and a friend were trying to fabricate a special mount that would bring the scope back farther. Because they were afraid the magnum shotgun would kick too

hard, they had installed a thick butt pad. When I measured the stock from the trigger to the end of the pad, I came up with almost 15 inches. This defeated his purpose. He took my advice and removed the thick pad and had a stock maker cut the stock down to just under 13 inches. This permitted him to see through the scope without stretching his neck, and there was no danger from being struck with the scope when the shotgun was fired.

Recoil Pads Hinder

I would like to state once and for all that 90 percent of recoil pads hinder the shooter more than benefit him. For one thing, installing a recoil pad is not a simple matter. A good stock maker should be consulted. Another thing is that few shooters need a pad. The average big game rifle is not shot enough to warrant a recoil pad. The shotgunner who goes for trap and skeet needs the recoil pad more than the rabbit hunter who fires two boxes of shells in a season. Unless a great amount of shooting is going to be done, the recoil pad is of little value. I suggest before you stick an extra inch of rubber on the end of your favorite grouse gun or big game rifle, be certain it's really needed.

I've done a lot of talking about triggers and trigger pull. I still believe the trigger is the lifeline of a rifle. Stiff, hard-to-pull triggers or triggers that are sloppy make precise shooting impossible. The trigger must be crisp, not too heavy, and one that has no creep or play. The sad part of it is that not every rifle has an adjustable trigger. As popular as the M99 Savage is, there is very little a gunsmith can do to help the trigger and still keep it safe. I'm against honing or filing a



trigger or the sear. These parts have hard surfaces from special heat treating, and when this hard coating is filed or honed away, the parts will wear rapidly and could become unsafe. If your trigger can't be adjusted with regulating screws, leave it as it is.

Some rifles, including the M700 Remington, M77 Ruger, and the M110 Savage, have adjustment screws to regulate the pull of the trigger. Most military actions such as the Enfield, Springfield, Mauser and Krag have no means of setting the trigger. The Model 70 Winchester can be adjusted but for best results a good gunsmith should do it.

Unfortunately, reducing a trigger pull without being able to remove the creep or play doesn't offer too much. The best approach to the trigger problem is to get your gunsmith to install a special adjustable trigger for your particular model. These triggers really work, and they can be bought for most rifles. The cost is not prohibitive, and the improvement in your shooting will repay you a dozen times.

Proper Triggers

When I talk about proper triggers, I don't mean one that is extremely light. The benchrest shooter can have a pull of a few ounces and get along without any danger. The chuck hunter needs a crisp light pull of about two pounds to get off the long-range shots. Neither of these triggers would be suitable for the big game hunter. A nice trigger on a deer rifle releases around four pounds. A lot of hunters use gloves, and it's rather difficult to use a light trigger under these conditions. If your rifle has a trigger problem, consult your gunsmith for advice and correction.

Believe it or not, a real problem in the shotgun world is simply old age. Some hunters just don't seem to realize that their old pump or double-barrel has reached the end of the line. I suppose I've torn apart 25 or more of these ol' timers that didn't have a broken piece in them—still they just

wouldn't operate. I've removed nearly every piece from some models that have passed from today's scene and couldn't see anything wrong. The fact was that each piece had worn just a little through the years, and finally the old gun just wouldn't click any longer. Pumps seem to have this problem more than the rest, but I've had my share of headaches with well-worn doubles. Most of the doubles' problems are in the triggers and safeties. Occasionally, these old shotguns can be fixed, but I think replacing them with something more modern is better. Before you grab Granddad's old double and have it repaired, reblued, and restocked, better get an estimate. You might just find out that a new autoloader could be had for the same



STOCKS ON OLD DOUBLES often crack behind top tang. This could be dangerous if a heavy load broke stock during shooting. It should be repaired.

money. If your shotgun is getting up in years and is showing signs of age, better consider putting it out to pasture. I hope the fellows who own an L. C. Smith, Parker, Purdy, or some other fine old shotgun won't take offense at these suggestions. You'd be surprised, fellas, just how many old shotguns should be retired.

A lot of rifle problems are found in some of the military imports that now



THOUGH JOHN COLEMAN IS HOLDING the rifle—a Hart-barreled 25-06 with Bausch & Lomb scope—it was Helen Lewis who busted that chuck at better than 450 yards. Which doubtless explains her smile, huh?

flood the market. These rifles may have filled military need, but as hunting rifles, they leave a lot to be desired. They come cheap in most cases. One man told me he bought a beat up 303 British because he got it and two boxes of ammo for \$20. When I left the range, he had fired all the shells and still didn't have the rifle sighted in. I have some apprehension about buying most of these imports. I often wonder how anyone could think he was getting a quality rifle for \$12 to \$20. Anyway, by the time you have one drilled, tapped, the bolt altered, and a new safe installed, you could buy a new rifle.

Another thing experience has proved to me is that a good many of these jobs aren't too safe. I won't shoot them anymore. I did for awhile. A few years back, a shiny new car with plush red upholstery and gobs of chrome pulled into my driveway. The driver

asked me to zero in his rifle. Fully expecting to see an expensive custom rifle, I nearly fell over when he dragged out a shabby looking 6.5 x 55 and two boxes of military ammo. I asked him if he had fired the rifle. He said he had a number of times, but that he couldn't get it on target. I sat down at the benchrest and let a well-aimed shot go at the 50-yard target. When the rifle cracked, my face seemed to explode, and I saw every color in the rainbow in front of me. It took several seconds for me to get seared, but I was relieved when I found out I was still in one piece. Luckily, the action hadn't let go, but the shell had ruptured and split in at least three places. The primer was gone, and I never did find out where the bullet went. My temper flared, and I informed the fellow in an unkind manner how close he had come to seriously injuring me. I even ac-

cused him of not telling me the truth about his shooting the rifle. The stopper came when he showed me half a box of empties that showed signs of blown primers and split cases. He actually thought the ammo was bad. He honestly believed that a rifle offered on the market would always be safe. I'm sure he never fired the rifle after that, and that he will not invest less than \$15 for a rifle and two boxes of shells again.

Some Good Military Rifles

The kind of military rifles I'm referring to does not include the M1917 Enfield, Springfield, Krag or the M98 Mauser. These military rifles are tough and strong. Some can even be used for magnum conversions. I just think it's foolish to invest in some unknown military rifle that can be bought for practically nothing. Common sense should tell us that these old military castoffs are not practical for general big game hunting. I agree that a good gunsmith can convert some of the rifles into good shooting outfits, but not everyone can.

Another thing about these imports that should be mentioned is the accuracy. The ones that I've group tested left a bad taste in my mouth. I can recall only one that came anywhere near what could be called hunting accuracy. Before you plunk down even a few dollars for one of these rifles, give some thought to a good used rifle or even a new one. For less than a hundred dollars, a new Model 94 Winchester, 340 Savage, 788 Remington or 336 Marlin can be bought, and there are others that fall below the \$100 mark.

To buy a 303 or one of the 6.5's and have all the necessary alterations made could come very close to the price of one of the new rifles I mentioned. Several years ago, a friend spent \$45 getting a used Mauser type of rifle scoped. The price just included the drilling, tapping, altering the bolt handle, and installing a new safety. When we got his scope installed, the

best group I could get for him with a variety of different handloads was about five inches at 100 yards. He paid \$50 for the rifle, and I'm sure that he would like to have his \$95 in a new rifle today.

I'm passing this information along to you just in case you might be considering buying some type of military rifle with the hopes of converting it into a sporter type hunting rifle. In some cases, it's worth it, but to sink over \$100 into customizing a used rifle doesn't add up to me. That kind of money will go a long ways toward a new Winchester, Savage, Ruger, or Remington, and you'll have a rifle that will be in top shape for years.

In order to get the most from your rifle or shotgun, it must fit. A flushed

QUICK REFLEXES and a perfectly working gun are needed if the hunter is to score on fast shots like this one. Milton Anderson of Greenock has both.



grouse or bouncing rabbit does not give the shooter much time to adjust to a shotgun that doesn't fit. Neither should the rifleman have to twist or crank his body into a weird angle to see through the scope. The stock of any gun should be short enough to come to the shoulder without catching under the armpit when the shooter has a heavy coat on. It's not a sin to shorten a new stock. It's unlikely that removing up to an inch of stock will upset the balance of any gun. Keep in mind that the gun should fit you—the user—regardless of what your hunting pals think of it. Some years ago, I installed a 5/16" plate on the side of a 94 Winchester and then mounted a scope on the plate for a man who had a neck injury. I'll admit it was a sight to behold, but it allowed the man to use the scope, and he was happy to be back in business. On a 760 Remington with the 62 Weaver base, I turned the base around and aligned two holes in the base and gun.

This brought the very short scope that he wanted to use back far enough to give the proper eye relief. I put a little filler shim under the rear of the base more for looks than for support.

I'm not afraid to venture a guess that your rifle or shotgun has a problem. Why put up with some deficiency when a little improvising or good gunsmithing could solve your problem? Just as the man whose scope I adjusted was surprised how much better he could shoot after it was correctly adjusted for him, I'm just as certain you'll be surprised and pleased when you get that stock shortened, a new trigger installed, or buy a new gun to replace one that has served its time. It seems a shame to sweat out the spring and summer months waiting for the first day of your favorite season only to have it spoiled by a gun that has a problem. If you hunt next year with a problem gun, it's your own fault. Remember, I warned you. . . .

Looking Backward . . .

"Wild animals, wolves and panthers, particularly, often confronted the settlers, especially in Leggett's Gap. . . . In the winter of 1821 the wolves frequenting the mountain between Providence and Abington caused such depredations, menacing humans and killing stock, that a great hunt was organized to rid the region of the pest. Settlers from Providence, Abington, Blakely, Pittston and some even from Kingston joined the hunt. . . . Lines were drawn across the mountains by the farmers armed with all kinds of weapons from guns to pitchforks. A notch in the mountain back of Hyde Park was the appointed place to close in on the animals. . . . Many wolves had been shot and left behind with cut and reddened throats, but more rushed into the destructive gorge and with swift vengeance were shot in their efforts to emerge from the trap. A vast number was thus slaughtered. So great were the trophies of the hunt that bear steak and venison long smoked upon the hunters' table. Only one panther was killed. From this time henceforth the valley was in a great measure rid of the impertinent wolf."

Thomas Murphy, "Lackawanna County," I, 518, Topeka and Indianapolis, Historical Pub. Co., n.d.

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SOUTHWEST DIVISION—G. L. Norris, Supervisor, 339 W. Main St., Ligonier 15658. Phone: A.C. 412 238-9523 or 238-9524

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QUESTION:

MAY I SET MUSKRAT TRAPS ON A BEAVER DAM?

ANSWER:

NO TRAPS MAY BE SET ON A BEAVER DAM OR HOUSE, OR WITHIN 25 FEET OF THE WATERLINE ON SUCH STRUCTURES.



QUESTION:

MUST BEAVER HIDES BE TAGGED?

ANSWER:

YES, WITHIN TEN DAYS OF THE CLOSE OF THE BEAVER SEASON.



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IN THIS ISSUE

FEATURES

	Page
Bears in Days Gone By	2
By Ivan R. Tomkins	
Shohola Waterfowl Management	8
By Nick Sisley	
Fight! Fight!	12
By Albert G. Shinmel	
Big Eyes for the Hunter	17
By J. David Truby	
A Path to Our Door	21
By Kay Evans	
Spring Is Here!	24
By Ken Calnon	
Prickly Prince of the Pinegroves	28
By Thomas Fegely	
A British Look at American Hunting	42
By John Madson	
Masked Aerial Bandit	46
By Robert H. Wright	
Save Your Pheasant Land	48
By Fred E. Hartman	

NEWS

Field Notes	34
Conservation News	39
Hunter Safety Education	44
By John C. Behel	

COLUMNS

Public or Private? (Camping)	51
By Les Rountree	
Home on the Range (Archery)	55
By Keith C. Schuyler	
The Gun for Clays (Guns)	60
By Don Lewis	

COVER PAINTING BY NICK ROSATO

As taken from a trap, the muskrat might not be the state's most impressive looking animal, but to trappers young and old this densely furred little fellow is tops. Of some 450,000 pelts taken in Pennsylvania last year, over 380,000 were off of this aquatic mammal, and their value exceeded \$400,000. No other furbearer in the state approached these numbers. Perhaps even more important than the economic figures is the fact that this two-pound critter is one of the main reasons thousands of youngsters develop a lifelong love of the outdoors, and there's no way to put a price on that.

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Hunting—How Dangerous?

SELF-APPOINTED critics and flowery commentators who seem to enjoy degrading Pennsylvania's hunting fraternity recently got slapped in the face with some facts which they obviously will not want to report.

If they don't ignore the statistics, they will be embarrassed by them.

During the past half-century hunting accidents in our state have been dropping rapidly, while everything else, from the price of bread to the crime rate, has been skyrocketing.

In the 1920s there were 467 fatal hunting accidents in Pennsylvania, one for every 10,454 hunters. During the decade of the 1930s the total slipped to 461, but the rate shrank to one fatality per 12,696 hunters.

Sportsmen became much more safety-conscious during the 1940s, which produced 288 fatalities, an average of one for every 25,522 hunters. In the 1950s there were 227 fatal hunting mishaps, or one per 40,345 hunters.

During the past decade there were 222 fatalities, or one for every 45,076 hunters.

In other words, the total has been more than cut in half, while the number of hunters has more than doubled. The rate has dropped to the point where it is less than one-fourth the figure of 40 years ago.

Quite a record for a form of outdoor recreation whose participants are variously described as "vast hordes of weapons-toting maniacs hell-bent on killing everything that moves—including each other," and "invading armies of boozing gunslingers intent on wiping out the wildlife," isn't it?

And the trend seems to be continuing. In 1968 there were 530 accidents involving Pennsylvania hunters, 505 of them non-fatal. In 1969 there were 461 accidents, 433 of them non-fatal. This is a reduction of over 10 percent in the number of mishaps in just one year—again while the number of hunters was rising.

What other activity can offer such impressive statistics?

The Pennsylvania Game Commission's hunter safety program has already been recognized as the nation's finest, and it received additional teeth during the past year when it became mandatory for all first-time hunters under 16 to complete a hunter safety training course before being eligible to buy a hunting license.

The ultimate goal of the program is to eliminate all hunting mishaps. Obviously, this can't be done. The only way to eliminate all accidents—whether they be hunting, driving an auto or just walking up the stairs—is to eliminate people. And we're not for that. The best we can do is to minimize the number of tragedies and their effects.

Just how dangerous is hunting?

Well, according to records of insurance company claims paid, here are the recreational activities which have higher accident rates: football, winter sports, baseball, bathing and swimming, basketball, skating, hiking, bicycling, picnics, outings, golf, horseback riding, boating and canoeing, gymnastics and fishing.

Praise the hunter, and pass the ammunition, please.—*Ted Godshall, Assoc. Ed.*



RIPPER

Ever Wonder What It Was Like to Hunt Pennsylvania's Biggest Game Just After the Turn of the Century? Here's a Firsthand Account of . . .

Bears in Days Gone By

By Ivan R. Tomkins

UP IN THE Wyoming State Forest, in Sullivan County, Pa., there is an overlook on High Knob, where one may have a view of the valley of the Loyalsock Creek and miles of wooded hills that really are the old Appalachian Mountains, or what is left after the glaciers scraped over them. Here, some years ago, I found a tablet, set in a boulder of native rock. It was dedicated to the memory of Sumner Francis McCarty, first forest ranger of this State Forest. It brought back a lot of memories of the hunting scenes from about 1912 to 1922, when I left that area. Aside from some brief trips, I have not been back since.

The barren slashings of those days have now grown up to deciduous forest, and the times and the people to some extent have changed. Where we could then hunt all day without seeing anyone but our own group, now there are many hunters. It is all very different.

One night in deer camp, Sumner said to me, "Ivan, who has a good view camera?" I told him that I had one but didn't know much about it. Then he told me that the year before, 1919, he had been deer hunting in the Loyalsock country and had found a place where one could see the country for miles around. It is no wonder that when he went with the State Forestry Department in the 1930s he remembered this overlook and helped develop the roads so that everyone could enjoy it. It is there the tablet is placed.

Yet, it is not with Sumner the forester that this account is concerned, but with Sumner the bear hunter, his friends, and some of the activities of those days.

Sumner was a "birth-right" Quaker, and that stock had been among the first settlers. In the list of voters in Lycoming County (which then contained what is now Sullivan County) in the year 1800, there were numerous McCartys and Battins, some with familiar first names. It was a small county and thinly settled, mostly by farmers and lumbermen, and everyone worked hard to make a living.

There were others. Hank Reinbold, Charlie Brown, Ralph Carpenter, Clint Shoemaker, and John Annable—six feet four inches tall, red-haired, mild and amiable. John had a bad carbuncle on his right cheek bone one year so he shot left-handed for a time. Numerous others could be named, but these were the regulars. All now are gone but Floyd Morgan and Kenneth Shelley, I think.

Miles of Great Forests

Picture if you can the landscape of those days. Miles of land where the great forests of hemlock, maple and beech had been cut without regard for the undercover; gaunt chestnuts killed by the blight; hundreds of acres burned to the bare rocks; a few timber stands still left; immense briar patches; rhododendron swamps with small hemlocks. The tale could go on.

This was a time when bear, grouse and snowshoe rabbits found abun-

dant habitat, before the deer explosion cleared the understory. The old deer were almost gone, the wolf and puma had long vanished. In fact, I believe that Sumner's grandfather, Samuel Battin, killed the last wolf about 1867.

On the beech ridges that were left, the bear fed and grew fat all fall. They fed on the apples of the abandoned farms or the marginal farms still found here and there, on the wild apples that sprang up wherever there had been a lumber camp, on blackberries and on many other kinds of food.

Most Thought-of Game

To almost anyone who enjoyed hunting, the bear was the most thought-of game. Many tried it and some had a little success, but few developed their skills very far. It took a lot of work, good dogs, good woodsmanship, and a lot of physical stamina; but it had lots of compensation in drama, in exercise of the best that was in the hunter, and in the satisfaction that comes from the use of a rifle.

In those days it was legal to run bears with dogs. Sumner had two hounds; Lead, a big black-and-tan, and Don, big and strong and black and white. Somehow, these dogs came to feel that bear were their aim in life, although they could be encouraged to run a fox or to tree a raccoon from the cornfield. One day we carried Don, a heavyweight, quite a distance to the road, after a bear had swiped him, but usually they were agile enough to keep clear. Hank had a dog called Tim, part shepherd, part bulldog, the rest traveling salesman. There was no need to put him on a leash, and he seldom went with anyone but his owner.

Altogether, it is my guess that these dogs accounted for 75 bears during their lifetime. Yet, the parties were often quite large, so I don't feel this was really exorbitant. The hunting groups shifted a lot but at the center

were only a few, and these were most likely to get in on the shooting just because they worked harder and knew their business better. Some would only go and sit on a runway, perhaps unwilling to take on the harder work of following the dogs if they got past, being perhaps a bit dubious about going into these wild hills they did not know.

This was an era of lever-action guns, and the more serious hunters had the best they could afford. Sumner once had a M99 Savage 303 with a long octagon barrel. Charlie Brown bought it from him later, and it served well. Sumner had a Savage 250-3000, then a M95 Winchester 30-06. When I first knew John Annable, he had a M95 Winchester 30-40, then a 250-3000 Savage, and about 1923 or 1924 a M54 Winchester 270. I think the Model 54 was not made until about 1923, for my 30-06 bought about that year has serial number 1068. Hank Reinbold had a 303 Savage. Clint Shoemaker first used a 30-30 Marlin and swore by the Hoxie bullet, then a 250-3000 and later a M95 Winchester 30-06. Many other guns of that time or earlier were used—38-40, 44-40, 38-55, 32-40 and so on. Some bear were shot with the one-ounce ball perhaps in a single barrel 12-gauge shotgun, but they were not regarded well. One chap with a red nose and a 40-82 Ballard target rifle put four bullets into a bear and killed it on the spot. One evening a bear lifted its head in the goldenrod under a wild apple tree and dropped in its tracks with a load of buckshot from my Stevens double, but that was an impromptu occasion and is only for the record. Buckshot was made illegal the following year.

Of course, the early settlers did good execution with the muzzle-loaders of the time, and there is even the family story of my great-uncle shooting a bear outside their log cabin in the moonlight when only six years old.



THE BEAR MIGHT BACK UP AGAINST a rock and fight off the dogs for awhile, then run again. Or it might tree and then jump out.

Although good guns were necessary, it was mostly the man that counted; and most of these men had known the rifle from boyhood days.

In staging a hunt a little care had to be taken, lest the party got too large, so everyone was a little close-mouthed about it. Most hunts were organized by word of mouth, not by telephone as it's done today. Usually there were five or six, often as few as three, though by the addition of friends, the party often got larger. The starting area might be an old orchard, a cornfield, or some beech ridge. Several watchers would take their stands on recognized bear runs, often several miles apart. Then two or three would take the dogs in on a leash, find a relatively fresh track and turn the dogs loose, after it was

certain they were headed in the right direction. The men with the dogs had to play it by ear, and the watchers who knew a little of the game would do likewise. Some of the amateurs were lucky, then some would lay their guns down and gather wood just at the wrong time, or some other foolish thing. And if the dogs went by with-in hearing, some never knew quite what to do.

A freshly roused bear leaves a strong scent, and the good dog puts his head in the air and goes straight toward it, cutting corners, and not waiting to figure all the details. No two chases were ever alike. Sometimes the bear would take off straight and tree within two or three miles, again it might be many miles farther on, and the problem was to keep within



ONE EVENING a bear lifted its head in the goldenrod under a wild apple tree and dropped in its tracks from a shot from my Stevens. . . .

hearing of the dogs. Perhaps the bear would swing in a circle eight or more miles in diameter, cutting across farming lands, and again once in awhile one would seem to head straight out of the country, and the dogs be lost for a day or so. The bear might back up against a rock and fight off the dogs for awhile, then run again. It might tree and jump out. Then someone might shoot it on a runway. In shooting a bear in a tree, one must be sure it is dead by the time it strikes the ground, or a dog may get hurt.

If Hank got to a bear before someone else gutted it, he would cut around the vent carefully until the gut was free, take hold of it, call "Look out for me," and take off down through the woods. He would then smugly come back and cut it off close to the vent and smile. Actually one can take out all the intestines and the stomach that way quite easily.

A bear was often taken in the most outlandish places, miles from any public road. How did we get it out?

Simple. We carried it, whole if possible, piecemeal if too large. If we didn't get it out that day, we did the next. It is a mighty relief, when a man gets in such a situation alone, to hear one of the others whoop and know help is at hand. Generally, if the weight was less than 150 pounds, we tied together the front and hind legs on each side and wore it like a knapsack, the head over the shoulder. One would carry as long as he could, lie down and get out of it, and another would take it up. One day we knapsacked a bear (its meat weighed 275 pounds, we found out later on) and put it on John's back, and he carried it 30 yards across a knee-deep creek over loose stones. It was just a stunt for him, and I doubt if he ever mentioned it afterwards. But, never did we leave any meat in the woods because of the labor of getting it out. Once Charlie Brown shot a bear that weighed about a hundred pounds, put it on his back and walked many miles home, and no one else knew where he was. But then he was a big strong man.

Through the Slashings

There is space to tell of one hunt in a little more detail. It was late November, and there was a little snow. Some others had wanted to try their dogs, and Sumner's Lead dog had distemper. The hunt was over a beech ridge about four miles from home. Various watchers were put out over a range of four or five miles, far out of hearing of each other. Sumner and I went west of the ridge a couple of miles and went up through the slashings of Short Run. I stopped at the Forks, while Sumner went farther up on the ridge. Several bear went off the beech ridge that morning but none were shot there. Clint shot at one on the hillside, and it fell behind a log with its feet sticking up, then got up and ran back up on the hill in spite of all the lead that followed it.

Nothing happened in my location

except some dogs that came through on a cold trail. Then about noon I began to hear faintly a dog barking treed far over the ridge to the west. Of course, I left at once and headed over that briar-grown hill, around and over the rocks. The sound of the dog became clearer, and I knew it was Sumner's Don. Twice I saw the rear of a bear going around a rock, and there were rocks as large as the family garage. But there was no chance to shoot, and the main objective still was to get to Don. At last, far off across Long Run, I could see the bear up in one of the few remaining trees. But I was too late, for Sumner's gun cracked and the bear fell dead from the tree.

When I got there Sumner and I looked at each other and wondered just what to do. We were about nine miles southwest of home, and we were due to set up deer camp ten miles to the eastward the next morning. Shortly afterward there came a whoop, and Hank and two guests came in. One was ill and could not carry a load, but there were four of us to make the carry. Backtracking a little, Sumner had not heard the chase at all, and Don must have taken the bear in a circle to the north then down into the Long Run valley. Had the wind been different, we probably would not have known about it at all.

It was then about 2 p.m., and a little after 4 p.m. the lone passenger train would wind up the valley three miles away. We turned to, skinned the bear, leaving the head on the skin, divided the meat roughly into three parts, knapsacked it, and started. Sumner took the hide and head, which might have weighed 50 or 60 pounds, and literally ran toward the flag station down in the valley, intending to

ask the conductor to stop and pick us up whenever we came out. The old logging road we followed was grown up to heavy briars but we broke through somehow. Part way down we could hear the train pulling the grade miles away. At last with a great effort we broke out of the briars and slid down a 40-foot cutbank onto the railroad track, just as the engine rounded the curve and came into sight. It was a great relief to hear the engine cut off and to know that Sumner had made it in time. What the others did I do not know, but I went up the baggage car steps on all fours with 90 pounds of bear meat on my back, followed by Don, the black-and-white hound.

What would we have done if we had missed the train? We would have walked the nine miles home, I am sure. When we got off the train, some of the party were there, and that was the first they knew about what we were doing.

This group was rather taciturn, and one just did not ask pointed questions. There would be a lot of joking perhaps, and a hint dropped here and there. But unless you were in on the climax, even though one of the inner circle, you had to wait until someone decided to tell you, and then very simply, without embellishments and without bragging. Outside of the group, very little was said.

If someone could have detailed these hunts and the personalities involved, it would make an interesting document. Although this account centers around one man, many others were involved. It is just a brief tale from the past. It is too bad that the atmosphere, the vivid experiences, the enthusiasms of those days could not have been better written, but who remains to do it?

Laws Against Trapping Bears

In Pennsylvania, steel traps were made illegal in 1911 for taking bears. In 1915, pens and pitfalls also were forbidden.



PGC Photo by Ray Shaver

THIS VIEW OF THE FALLS below the dam on the Shohola Waterfowl Management Area shows why many people drive long distances just to see the scenery.

Shohola Waterfowl Management

By Nick Sisley

THE Shohola Waterfowl Management Area is located on the beautiful Pocono Plateau in Pike County. Situated in the center of State Game Lands 180, this area is being extensively developed for ducks and geese. There are few human inhabitants in this region. First-time visitors to Pike County are often amazed to find so much near-wilderness in such proximity to the huge metropolitan areas of New York City, Philadelphia, Scranton, and Allentown-Easton. Pike County is usually well up in the state's bear harvest—always a good yardstick to judge remote sections by.

State Game Lands 180 is in gently rolling terrain; some of it is rather steep, but high mountain ridge country, it is not. Accordingly, water drainage in many places is slow.

Beaver are numerous throughout the county, and they have constructed dams on almost every small tributary stream. These beaver dams have provided nesting and feeding sites for good numbers of mallards, blacks, and wood ducks. The current and future waterfowl management practices at Shohola not only will increase and enhance the nesting and feeding sites for our native ducks, but migratory waterfowl also are sure to find these areas to their liking, too. Additionally, Shohola will be managed for geese. A native goose population has been established. As it grows in numbers, many of the clannish migratory geese are expected to drop in.

Multiple Use Facility

Though waterfowl management is

the primary thought at Shohola, the area also is being developed as a multiple use facility. Money from the Game Fund is not being utilized for any compatible development at Shohola. Approved as a recreational area by the Bureau of Outdoor Recreation (BOR), Shohola development is funded 50 percent by that organization and 50 percent by state funds voted in referendum—Project 500.

One construction project was a monolithic concrete dam. Built on bed rock, it is 26 feet high and 768 feet wide. A spillway provides emergency overflow, and the water level can be lowered completely because of the dam's unusual method of construction. The dam can be used for flood control. The impoundment is capable of backing up 1137 acres of water. The lake will be four miles long, 75 percent of it three to four feet deep—ideal for waterfowl.

The Game Commission intends to draw down the impoundment each year to permit the sowing of millet seed (prime duck food). Sixty days later, near the end of August, the water level will be raised to engulf the ripe millet for use by waterfowl.

Two Propagation Areas

Two refuges or propagation areas will be wired off. These will insure that native waterfowl stay in the area longer and they will offer refuge to migratory ones. There is a 480-acre refuge where Rattlesnake Creek enters the impoundment. A wheatfield of 40 acres is finished. Much of this refuge has been cleared of woody growth, and additional clearing will take place. This year (1970) will see the first millet seed plantings.

Upstream will be another wildlife refuge of 500 acres where Birchy Brook and the main Shohola Creek merge. It is expected that both these propagation areas will be open to bear and deer hunting and to trapping, though trapping will cease each year at the beginning of March so that

nesting waterfowl will be unmolested.

Man-made nesting sites are being bulldozed where feasible within the impoundment. These "islands" average 15 feet wide by 100 feet in length. Some are made in a cross or X design, as waterfowl, especially geese, require a specified territory guarded by a male before the female will nest. The four points of the cross or X islands provide nesting edges for females.

Nesting Boxes

Over 50 wood duck nesting boxes already have been installed in appropriate woody and secluded habitat within the impoundment. More are scheduled for the future. They are cleaned each winter before ice out and new wood chip bedding is added. For mallards and black ducks, a different nesting box is required. Two types have been utilized satisfactorily by waterfowl managers. One is the "half barrel." Positioned with the "open half" up, the barrel is placed on four stakes driven into the water and bedding is added. It has been found that dark-colored bedding lessens the chance of egg predation by crows. In the past, a ramp or



ARCHITECT PETER KOHLER, left, discusses some building plans with employees at Shohola. An information center will be built for visitors' use.

walkway from the water to the nest was provided for the ducks, but the Game Commission no longer uses them. They are unnecessary, and they provide a means for raccoons, dogs, cats, snakes, and snapping turtles to enter the nest.

The second type nest is easily made with wire and straw. It is light and easily handled. Placed on four stakes driven into the water, it provides an adequate waterfowl nest. These nests can easily be checked from a distance by Game Commission personnel, and overhead crows cannot spot the eggs.

All trees and brush were left standing in the Shohola impoundment. This thick vegetation offers ideal nesting habitat to blacks, mallards, and wood ducks. Open areas such as preferred by Canada geese also are provided.

Open to Hunters

This management area is open to all properly licensed hunters. Two boat access areas are being constructed to aid duck hunters and fishermen.

There's more to State Game Lands 180. Outside the management impoundment are numerous beaver dams that offer excellent waterfowl jump shooting. But the Game Commission can't depend on the beaver to maintain constant water levels on these ponds. The beavers eat themselves out of house and home, so to speak. Then they move out and start damming up a new area. Their old dams can be washed out. Accordingly, the Commission plans to permanently dike many of the old beaver dams. Jump shooting is exciting sport and calls for fast shooting. Often a few decoys tossed on an older, open canopy beaver dam will provide sur-

prisingly good shooting on incoming birds. There are over a dozen of these areas on SGL 180 now. There will be more in the future.

Other Game Species

State Game Lands 180 is a big one—11,000 acres in all. Waterfowl is not its only claim to fame. There are snowshoe rabbits in the swampy areas. Try them with a couple of hounds on a below-zero January morning. The baying dogs are sure to ease the icicles from your veins. As stated earlier, Pike County is usually among the leading counties in the state for bear, and deer thrive in this big woods area, too. More timber doubtless will be sold for pulpwood in the future, and this will profit the deer herd. Recent swings in forestry practices from selective to clear cutting will also aid the deer population and benefit grouse too. This region was once a mecca to grouse hunters from all over the northeastern part of the United States.

Land Manager Wil Peoples has planted over 10 miles of service roads which have been seeded to food for wildlife on SGL 180—crown vetch, grass, trefoil, and clover. Some 1500 acres have been bulldozed or border cut. Most of the private property in Pike County is posted against trespass. Hunting clubs maintain large tracts for their own pleasure, but they do little to improve the habitat for wildlife. However much of Pike County is State Forest Land, and there are four blocks of State Game Lands (180, 183, 209, 116). Here the average hunter can find plenty of elbow room (especially after the first day of the season) and no "no trespass" posters.

Pennsylvania hunters may sometimes take their hunting and the Game Commission for granted. What other state can boast well over 1,000,000 acres of State Game Lands—lands managed for wildlife first and foremost, and lands open to any and all license holders? Where else can one

Give

GAME NEWS

To a Friend . . .



PGC Photo by Ray Shaver

BEAUTIFUL NATURE TRAILS such as this are one of the multiple use features of Shohola, allow area to be used by many persons besides hunters.

hunt on so many State Parks and State Forests? Most of these are completely open to hunting except for restricted areas where people make use of other facilities.

The Shohola Waterfowl Area also offers more. As stated before, it's a multiple use facility. Below the new concrete dam, water cascades over 100 feet in a series of beautiful falls. Hiking, nature trails and vista points are being constructed around Shohola Falls and elsewhere in this facility. Picnic areas with tables and fireplaces will be provided, along with drinking water, parking areas, comfort stations and an information building.

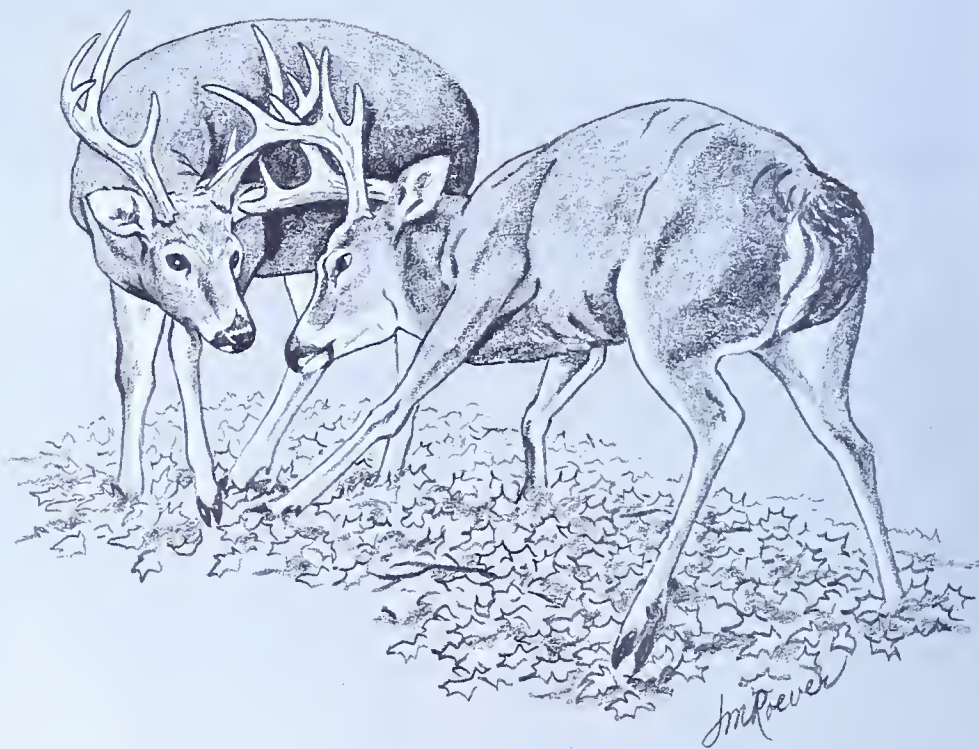
A small waterfowl information center, complete with photographed specimens native to the area, is under construction. Furbearers common to the area will also be shown at this installation.

On U. S. Route 6 to the northwest of SGL 180 is SGL 183. Here again

this State Game Land is managed mainly for waterfowl. It contains numerous beaver ponds already. One diked pond comprises 80 acres of ideal waterfowl habitat.

Here and on SGL 180 local Boy Scout groups have constructed and installed hundreds of wood duck nesting boxes. The Game Commission provides the area and the Scouts do the construction, later making an outing on the ice to install them in wooded sections of diked ponds and beaver ponds.

To the north lies Wayne County, with perhaps more beaver ponds than any place of similar area this side of Canada. To the northwest lie Susquehanna and Bradford Counties, more prime beaver country — and beaver ponds mean duck shooting. Suffice to say that waterfowl hunting in northeastern Pennsylvania is on the upswing. It was good before, and it's going to get better.



Fight! Fight!

By Albert G. Shimmel

THE SPECTACLE of bare-knuckle, foot-stomping, ear-biting, rough-and-tumble combat that centered around elections, picnics and Saturday night socials gradually faded from the American scene during the first and second decades of this century. In those days the cry, "Fight! Fight!" never failed to bring a stampede of interested spectators. Indeed, some of these solid citizens at times became so emotionally involved as to forget themselves and join in the fray with the result that what had begun as a private disagreement turned into a general free-for-all.

Combative instincts and aggressive urges have fallen under the ban of public opinion and have been diverted into the strenuous activity of cheering at spectator sports events or sitting in comfort while the picture tube portrays combat in violent bloodlessness. Man's intense concentration on such exhibitions shows how thinly the veneer of civilization covers the ancient instincts of the race. Perhaps some of our tensions are caused by a lack of adrenaline-releasing combat. Who knows. . . .

The hickory logs were a bed of coals with only an occasional tongue of flame that flickered for a few brief seconds then disappeared. The drowsy weariness that follows a day in the woods was mine.

A white-footed mouse, the very one that nibbled on the cake of soap that we had left exposed after our last visit, I'm sure, played about. At dusk it had appeared, eaten from the crumbs and seeds that I had placed on the raised hearthstone, then explored the woodbox and my boots that stood nearby. It would vanish into the shadows then return to sniff at the remaining food. I dozed, then

suddenly was aware that a second mouse had appeared on the scene.

They confronted each other sitting on their haunches with their forefeet held against their chests. With a series of high-pitched squeaks they grappled, moving with such rapidity that it was impossible to follow the action. They broke apart and sat up again. One of the contestants had a split ear from which blood was oozing. Their heaving chests indicated they were badly winded. Suddenly, they engaged again. After a short tussle one broke free and delivered a resounding kick with both hind legs. The force of the blow knocked the other from the hearth to the flagstone below. It was apparently hurt. It lay on its side gasping and struggling while the other observed from above. After a minute or so it seemed to regain consciousness and crawled away to hide behind the firewood logs. Next morning I found it dead.

Ownership, possession and territorial rights are prime causes of conflict between individuals of the same species.

Less violent are the squabbles we witness each year between the robins. The males arrive first and select their locations and do sentry duty. Their spring songs are a vocal proclamation of ownership claims. This guardianship becomes more authoritative as the mates are selected and nests are built, and it reaches its climax of aggressiveness with the search for food to provide for the nestlings.

A nesting pair from the orchard beyond the garden claimed one of the garden beds and the surrounding lawn. A pair nesting near the house claimed the back lawn and two garden beds. A path between the beds was the boundary. All went well when each respected the territory of the

other. Occasionally, one would stray across the line. The owners were quick to defend what they considered their own and pitched battles resulted. At times both mates assailed the interloper. As far as we could determine it was always the trespasser that received the drubbing.

Other birds hunted the area and were ignored. When the nesting season was past the animosity ceased and they fed and wandered together.

I saw them moving through the second-growth pines. They paused at the edge of the thicket, as deer sometimes do, before stepping into the open. Two bucks and a single doe. They walked purposefully toward the nearest apple tree where windfalls littered the ground. Their path passed so close to the tree under which I was sitting that I could have tossed

the core of the apple I was eating and scored a direct hit on at least one of them. After eating together for some time in perfect harmony, the two bucks faced each other and began to spar playfully. Only twice did their antlers touch. This was a prelude to more serious contests to come. Some shreds of velvet still were visible around the bases of their antlers. Their necks were not as yet enlarged. The doe was an interested but unconcerned spectator. At dusk they wandered away together.

Several weeks later I witnessed a battle that was in earnest. My observation point was a steep hillside that overlooked a cove forested with mature hardwoods. Mast covered the ground and drew a variety of wild creatures to the feast. It was pale dawn when I found a comfortable seat at the foot of a big oak that commanded a view of the timber below.

My attention was centered on a grouse that moved about the urgent business of feeding. Suddenly it froze to immobility. Something was coming. Three does came around the bench and fanned out to feed. A buck followed some distance behind. He stopped often, turning his head and directing his ears back in the direction from which they had come.

A Second Buck

A hundred yards beyond, a second buck came into view. It walked slowly with its head low, as if following the others by scent. Every few yards it stopped and seemed to be searching for something. When close enough for mutual recognition, the bucks moved warily into position. Necks were arched and antlers lowered until almost touching. There was a long period during which each seemed to measure the other. Then, with an arching of backs and a tensing of muscles, the contest began. Only their explosive breathing and the clicking of tine on tine broke the stillness.



THE GROUSE HURRIED back to the drumming log, put on an impressive display, drummed vigorously, then walked back up the hill.

Each tried to wrestle the other off balance or to get his antlers under the other's guard in order to thrust upward. Occasionally they withdrew as if by mutual consent to catch their breath. Although much of the action was static, the heaving of their sides gave proof of the effort involved. The contestants were evenly matched in strength and seemed to have almost identical eight-point racks. For almost twenty minutes I watched the contest. Then one buck suddenly twisted the other's head until the antlers were almost at right angles to the body. The disadvantaged buck broke away and left the scene. The victor watched him go and then turned again to follow the does, who were by this time out of sight.

The predawn darkness inside the cramped cubicle of burlap was uncomfortable. Through an opening I could barely make out the outline of the drumming log, less than four feet away. The leaves were crisp with cold. As I waited I could think of a dozen good reasons why I should be somewhere else. Here I sat on a wobbly camp stool with the legs of a camera tripod filling so much of the remaining space within the blind that I dared not move even my feet, and they were slowly turning into blocks of ice, woolen socks and insulated boots to the contrary.

Measured Footsteps

Then came sound of measured footsteps on the frozen leaves, and the discomforts were forgotten. A shadow mounted the log and the first measured thumps increased their tempo until they were a blur of sound. abruptly they ceased. From less than fifty yards away came the answer. Before his rival had finished, the grouse before the blind answered and the duel was on.

At intervals "my" grouse left his log and made a tour of the surroundings. He stopped often to peck at

some trifle on the ground or cock his head to listen briefly. He patrolled the boundary of his territory more carefully on the side toward his rival's stand. Each time he returned to the log he strutted its length with stiff, downthrust wings, spread fan and erect posture. Often he fanned his dark ruff until it resembled an Elizabethan collar. The performance was one of the interesting pageants of the woods.

Left Log

Just before sunrise, when the light made it possible to follow his every movement, he left his drumming log and moved directly toward his rival's stand. At the boundary he paused, lowered his wings and strutted. He paused then, crouched low and turned his head as if listening. As if by magic a second grouse came running out of the brush and crouched. The two were less than a foot apart. Both were crouched close to the ground with feathers sleeked against their body. They sparred, using their bills to peck savagely. As the battle progressed they assumed a more erect posture and used their wings to strike blows much as a pair of bantam roosters. Only twice during the battle did they use their feet for striking, although they danced about as boxers do. At times they drew a few inches apart and assumed the crouching attitude. Each exchange seemed to rise to a higher climax of fury. Suddenly, one of the birds terminated the contest by retreating a few steps then flying from the scene. The other hurried back to the drumming log, put on an impressive display, drummed vigorously, then walked back up the hill in the opposite direction from that taken by his opponent. I didn't see either bird again that day.

Grouse fights occur most often during the mating season but qualified observers have seen them during the fall shuffle when young birds are seeking new territories.



THE RED SQUIRREL is one of the most interesting, impudent, thieving little rascals to be found in the woods. His combats are in earnest. His language requires little imagination to interpret as profanity.

Not often do we witness a fight between members of the same species that ends in tragedy. Some superficial wounds may be visible but in most contests once the victor is established his antagonist is allowed to escape without further show of force. At times there are exceptions.

The red squirrel is one of the most interesting, noisy, impudent, thieving little rascals to be found in the woods. His combats are in earnest. His language requires little imagination to interpret as profanity.

Lost Tip of Tail

We became rather attached to a light-colored male that lived near the cabin. By accident he had lost the tip of his tail and we thought of him as Stub. He was considerably lighter in color than the two females that shared his range.

All was relatively peaceful until a handsome male wandered out of the woods that lay across the road. His trespassings were rather fugitive at

first, but after awhile he developed an insolent boldness. Stub resented the stranger and in the several contests of strength the handsome stranger was driven off.

Fighting in Treetops

One day I heard them fighting in the tops of the tall trees that bordered the road. We could see the branches sway and hear the insults that they hurled, but the thick foliage prevented a view of the contest. Suddenly one fell from the treetop to land with a jarring thud in the road. It was Stub. He seemed stunned by the fall but gathered his senses and as he dragged himself away we saw that his right leg had been either broken or dislocated by the fall. He moved painfully up the trunk of a big oak but was attacked by a pair of jays that were nesting in the upper branches. Again he fell to the ground and to shake off the jabbing birds he crawled into a hole at the foot of a decaying stump. We never saw him again.

Takes Over Territory

The victorious male not only took over the territory but also the harem. We even saw him carry away the butternuts that Stub had gathered the previous autumn.

This same dominant male received a thorough drubbing when he attempted to investigate a den where one of the females had her nursery. She popped out and assailed him with such fury that he beat a hasty retreat. When he was at a safe distance he stopped to care for his battle wounds which consisted of a cut under his left eye and a thoroughly scratched nose. It was an impressive performance.

Young animals of the same litter establish a definite social order through fights. These may be harmless enough but they serve to establish the dominance of individuals and lead to survival of the fittest of the species.

Big Eyes for the Hunter

By J. David Truby

HUNTING EQUIPMENT, like the camp cook's leftovers, tends to accumulate. However, a hunter's binocular should not be classed as a leftover. As Colonel H. J. Samuels, a noted outdoorsman, once wrote, "Guns get the glory, but glasses find the game."

Quite simply, a binocular improves your power of vision and allows you to find game you ordinarily wouldn't see, because by the time you get close enough to see it, the game has long gone. Ask the serious woodchuck hunter about this. Used properly, a good binocular can save you lots of steps too when you are able to give a big spread of land a visual checkup instead of walking over it.

A binocular is more than an accessory to the serious and successful hunter—it's a necessary piece of precision equipment. While a quality binocular doesn't have to cost a fortune, there are some things you ought to know before you go binocular buying.



GOOD BINOCULARS are indispensable to woodchuck hunters. Here a pair of 7 x 35 Bushnells provide the means of studying a distant meadow.

The initial requirement of a binocular is to produce a clearly defined and enlarged image of the subject you're looking at. In an inferior glass, you'll find linear and color distortion as well as curvature of field. The problems are about the same as buying a cheap color TV set, and so are the remedies. When buying a binocular, look for quality manufacture, a brand name, and a fair price for the workmanship involved.

A binocular is designated by its magnification and by the diameter of its objective (front) lenses in millimeters (there are 25.4mm in an inch). Thus, a 7x, 35 binocular, now commonly written without the comma, means the image is magnified 7 times and the objective lenses are 35mm across.

Other information can be calculated

from these figures. The exit pupil of the binocular, which is the beam of light that emerges from the ocular (rear) lens and enters the viewer's eye, has a diameter equal to the objective lens diameter divided by the power. In the case of the 7x35 size binocular, the exit pupil is 5mm. This is important because it determines the relative brightness of the binocular, which is

tion. Besides their extra cost, bulk and weight, they are difficult to use, as your normal "wobble" is magnified along with everything else, and this is very distracting. In years past, the 6x30 size was recommended for most Eastern hunting. This is still a good size, but the current favorite is the 7x35.

Binoculars should have prisms in



THIS LINEUP OF BAUSCH & LOMB BINOCULARS shows the considerable variation in sizes available. Each is designed to serve a specific area of use.

the square of this number, or 25. These simple calculations allow a prospective buyer to compare this characteristic in various size binoculars. The higher the relative brightness number, assuming binoculars of equal quality, the more light transmitted to the user, which means that is the glass which can be used most effectively at twilight, on a gloomy day, or whatever. It must be kept in mind, however, that the amount of light which can be taken in by the human eye is limited by the diameter of its pupil. Under ordinary conditions, this is 4 or 5 millimeters. Under very poor light conditions, it might open to 7 millimeters or so in some individuals. That is the reason the so-called "night glasses" are generally 7x50s, as this gives just about a 7mm exit pupil.

Since most hunters will be handholding their binoculars, it's advisable not to get unusually high magnifica-

tion. Besides their extra cost, bulk and weight, they are difficult to use, as your normal "wobble" is magnified along with everything else, and this is very distracting. In years past, the 6x30 size was recommended for most Eastern hunting. This is still a good size, but the current favorite is the 7x35. Binoculars having prisms normally are recognizable because their objective lenses are much farther apart or closer together than their eyepieces. This is necessary to accommodate the zigzag route which light follows in passing through a prism. There are exceptions, notably some binoculars manufactured by Hensoldt and Leitz. These use roof prisms, which can be installed in tapered-cylindrical barrels rather than offset ones. Since these cost in the neighborhood of \$250, though, it's not likely that anyone who didn't know what he was doing would be involved with them.

In recent years, engineering technology has produced compact glasses which, though not quite as good

optically as the larger models, are very useful for hunters because of their small size and light weight. For example, Bushnell's pocket models come in either 6x or 7x and will fit into a hunting shirt pocket. They are approximately 3¼ inches long and weigh only 11 ounces.

Secondly, magnesium construction has made traditional-sized glasses lighter for those hunters who just won't buy a compact. Some 7x35 binoculars of a few years ago weighed between 32 and 38 ounces. Now, those same glasses will go about 24 to 26 ounces.

Wide-Angle Binoculars

Wide-angle binoculars have gained popularity of late because they give a much larger field of view than those of normal design. However, they are bulkier and heavier than conventional glasses, and the cheaper models sometimes have optical deficiencies such as curvature of the field, which is a distortion annoying to the hunter. If you are willing to pay for a top-quality model, though, and don't mind the extra weight, this design is an advantage, for the extra field often reveals an animal which might never be seen through ordinary binoculars.

Another innovation is the zoom binocular, which uses the same principle as the zoom movie camera lens or telescopic sight. Zoom binoculars also are generally bulkier, heavier and more costly than conventional glasses. Generally, the zoom models don't have optical definition equal to a single power binocular, and some do not stay in focus as the power is changed.

In addition to the power and types of binoculars, there are other important factors to consider in choosing a proper binocular.

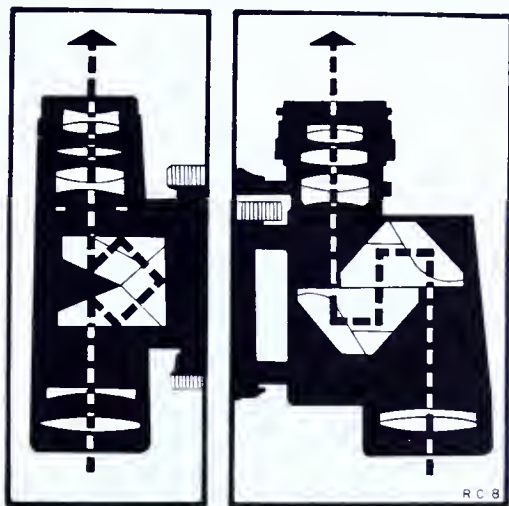
1. *Field of vision* describes the diameter of the circular view you have through a binocular at 1000 yards. Obviously, a large field is of value to hunters. High power binoculars nor-

mally have less field than lower power ones. Binoculars of 6x or 7x usually have fields of 375 to 450 feet.

2. *Relative brightness* was explained, in part, earlier. You'll remember that the two relevant factors here are power and objective lens diameter. The brighter the image wanted at a given power, the larger the lenses must be. Most companies list relative brightness figures. In general, any binocular with an RB rating of 12 or over provides all the light your eyes can use during the daytime. A rating of 25 (as with the 6x30, 7x35, 8x40 and similar glasses) is usable even at dawn and dusk. Those with ratings of 50 are needed only under very poor light conditions.

3. *Coating* is a term used to describe a thin film of magnesium fluoride which can be applied to lens surfaces to reduce reflection and thus improve image quality. Nowadays, good binoculars have all, or nearly all, glass-to-air lens surfaces coated.

Binoculars must be properly focused for good results afield. This is simply the act of adjusting them so the image is clear and sharp. With central focusing models, look through the binoc-



PATHS LIGHT TAKES passing through Leitz Trinovid roof prism binocular, left, and conventional prisms, right. The roof prism design is less bulky but generally more expensive.



SWIFT VULCAN MARK II, a wide-angle binocular liked by many hunters.

ular with both eyes open. Cover the right objective lens and adjust the central focusing screw until the image seen with the left eye is sharp. Then cover the left objective and adjust for the right eye by turning the right eyepiece. With individual focusing binoculars, repeat the procedure, but make the adjustments on each eyepiece as there is no central focusing screw.

All of the factors and considerations still come down to the decision of, "Which binocular do I buy?" The answer depends on you, plus where and



BUSHNELL CUSTOM COMPACT is fine for hunters who must travel light.

what you hunt. However, keep in mind that a good binocular will never wear out. If you buy well the first time you're making a lifetime investment. Avoid the too-cheap bargain as it can't begin to stand up to the rough life of a hunter. You get back in service and use pretty much what you put into a binocular in terms of price.

OK, let's say you've bought your binocular after studying all the factors. Now what?

About the only maintenance is cleaning the lenses. This is a job to be done carefully and preferably only with optical cleaning tissue. Never tamper with anything else and above



LEITZ TRINOVID looks like a field glass, but is a top-grade binocular.

all, don't adjust any screws or oil anything. If you feel something's wrong, let a repairman look at the binocular. All you should ever do is clean the lenses—gently!

It pays to take some time and care in the selection of a binocular. In the long run, you'll use it more than you use your rifle. Buying a quality binocular will improve the fun, efficiency and productivity of your hunting. Yeah, guns get the glory, but binoculars spot the game . . . ask the chuck hunter who owns a good one!

A Path to Our Door

By Kay Evans

IN MID-NOVEMBER, home from a hunting trip, I went into our storage room to stow our gear. While we'd been away mice had been playing and I set a trap. Smoking a trap between settings may be necessary for gray town mice but not for their country cousins. By the end of the month I'd caught 14 brown-and-white deer mice. There was a time when I'd have called George to empty a mouse trap and reset it, but I took the responsibility for this chore—until the fifteenth mouse.

That evening when I opened the door of the storage room to check my trap, it was empty but set off. There on the bare, wide floorboards sat a mouse, immobile. I called George, who came up carrying a box and a broom. A broom to kill a mouse? The mouse hadn't moved and there was a little blood on its nose where the trap had struck and stunned it. George tried to steer it into the box to take it outside and release it, but it vanished behind some hampers.

Then my husband told me to put away my lethal trap—we wouldn't want to kill this pretty little thing, would we? He'd try to catch it alive.

He built his better mouse trap and after about a week of giving the mice the run of the storage room Mark I BMT was set.

It was early evening when we made our first catch. I carried the trap downstairs and put it on the living room table. The prisoner sat in a corner—no hysterics—with his question mark of a tail against the wire, regarding us with liquid black eyes that seemed to protrude for wide-angle vision. The immaculate brown coat with black-tipped hairs was enhanced (you don't say "set-off" in front of a deer mouse just trapped) by the white underparts and feet. Small toes be-

trayed anxiety in the way they clung to the cage floor. Over-sized ears were cocked, the flexible nose searched the air for our scent, while antennae of whiskers vibrated delicately. Whatever it discovered about us didn't seem to frighten it. It was obvious we were dealing with no vermin but with a very fine fellow.

"I bet we could make a pet of him," George said. "I hate to put him out in this snow."

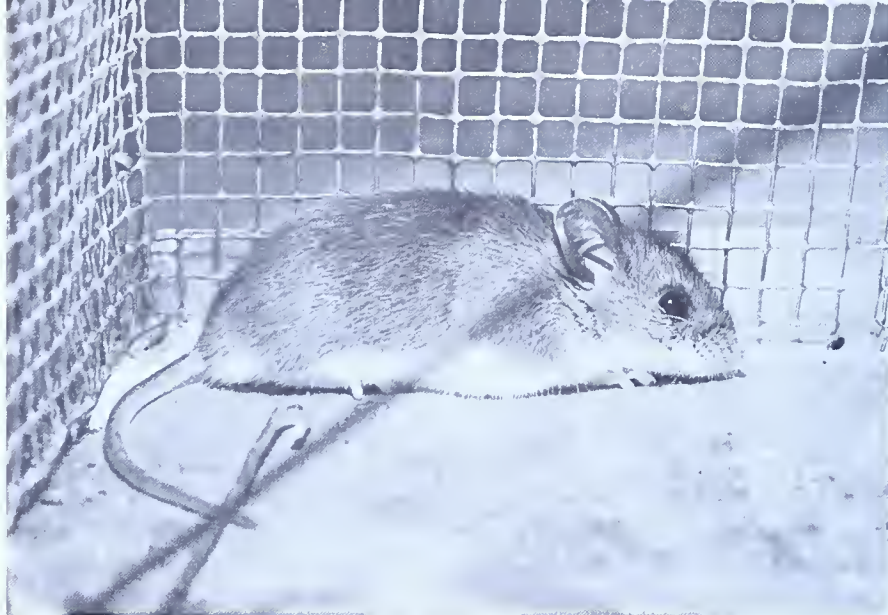
But we knew two setters in the house were all the pets we needed. George carried the trap down our lane to the walk-in kennel where at first the mouse was reluctant to leave the trap but then vanished in a happy realization of freedom.

Comeuppance

Mouse Number 2 gave us our comeuppance. Four times it enjoyed the tidbits on the bait hook and each time somehow opened the trap door and went out to wait our next offering. Back to the drawing board went George, who redesigned his trap and built the Mark II.

It is an 8" x 5" x 5" half-inch-mesh wire cage with an entrance 3½" x 3" cut in one end. A slot in the cage top permits a falling door to be inserted in aluminum flanges. The vertically sliding door is of sheet metal, ¼" wide by 6" high. It is held open by a wire trigger hinged on the cage top an inch behind the door. A wire bait hook hangs from the cage top at the rear and is linked to the trigger by a connecting wire. A tug on the bait hook trips the trigger and the door drops, closing the entrance behind the guest. Very impressive.

It was dusk when we first set Mark II BMT and less than an hour later our chagrined Houdini sat inside the closed trap wondering what had gone



wrong. We now had a foot of snow and George left a supply of scratch grain when he released the mouse in the kennel.

Mouse 3, mouse 4, and mice 5 and 6 followed nightly. Amazed that there could still be that many, we decided to make a test. I dropped a bead of red nail polish on the back of Mouse 6. The following night we caught Number 7, slightly smaller, and marked it.

Our calendar had come to be made up of mice, not days. On the morning of Mouse 8 we looked for telltale nail polish. There was none. But on its back, where the small red glob would have been, was a bare spot. The following day we found the same condition on smaller Mouse 9. This couldn't be chance—had the mice pulled the red lacquer off and, with it, the hair? Before taking Number 9 to the kennel again, we offered it food and soon had it eating cheese from our fingers through the wire.

Delightful Acquaintances

All these years we had been sharing our house and land with these delightful little things without becoming acquainted. Like most people, to us a mouse was a mouse and therefore, inside any building, a pest to be destroyed. It seemed time to learn something about them.

The advice in an encyclopedia, "The

best thing to do about mice is get a good cat," is at odds with the attitude of naturalists who hold the white-footed or deer mouse in high esteem. Edwin Way Teale writes that he might have marked his way "from coast to coast with the milestones of the white-footed mice." There are 15 species. The deer mouse gets its name because it resembles the white-tailed deer in color and marking. Sally Carrihar speaks of "the attractive little deer mouse" though most of the references in her *Wild Heritage* concern the mouse as food for other animals. I found two excellent drawings by the artist-naturalist Ned Smith in *GAME NEWS* and concise information including the question and answer: "Do deer mice make good pets? Yes."

Mammals of North America by Victor H. Cahalane corroborated our observation that our mouse is dainty and clean, "... the social antithesis of the prying and frequently dirty house-mouse. It scrubs, combs and arranges every hair ... the height of mouse elegance." Small wonder mice 6 and 7 pulled out these globs of nail lacquer. "They are strongly attached to their home territory ... have found their way back from a mile or more." The distance we had taken them from the house to the kennel is not over 50 yards.

Deer mice move about and eat at night "and by sunrise the last one is

in bed for the day. Moonlight is dreaded. . . . Practically every meat-eater, up to and including the cougar, preys on white-footed mice"—especially weasels, skunks, foxes, owls and hawks, all of which we have here in the Alleghenies. Knowing deer mice as individuals makes you want to protect them.

Big Order

That is a big order; deer mice are prolific. Mr. Cahalane describes the wrinkled pink offspring "so transparent that a milk-filled stomach shows through the skin as a tiny white sac. The mother white-foot is a model of solicitude and maternal care. Except for running out briefly to mate and get food, she devotes every moment and all her energy to the young." From early spring to fall, with a 21-day gestation, possibly a litter each month, by the time she has her last litter of the year a mouse is probably a grandmother if not great-grandmother for "the young are ready to mate at from five to eight weeks." We could believe they were planning to raise all those young in our storage room.

On February 25 we marked Catch 20 with two spots of nail polish, then released it in the kennel. Three nights later it was back in our trap, looking up at us with big black eyes that seemed to say, "It's me again." The two bare spots confirmed it. We gave it some wild bird seeds, which it held squirrel-like in front feet as it nibbled, discarding the chaff from each small seed. On March 3 it came back again. The trip is not an easy one; mice must enter the cellar of our old house, then climb through the walls to the attic before coming down into the storage room on our second floor. On March 6 when this deer mouse visited our trap for the fourth time we were tempted to keep the rascal—the pleasure in each other's company seemed obvious—but after two days we released it, hoping it would come again. Warm weather ar-

rived and it evidently felt no need for our shelter or our food.

Two weeks later we were glad when snow brought another deer mouse to our waiting BMT. This was spring-winter and couldn't last but we had nine more catches. Some appeared contented to be back home; two tapped nervous tattoos on the cage floor, one little white foot at a time vibrating rapidly. It was during this time that we caught "Stubby."

Some predator had nipped off his tail—we suspected that deer-mouse enemy, a shrew. Oddly, Stubby was happy and kitten-like. He'd stand up when we put our fingers on the cage, expecting food. Sometimes he'd strike at us through the wire mesh with both front feet but it was good-natured sparring for he would accept cheese, then stretch and yawn and curl up on his side to sleep. We took him on a 150-mile round trip to show him to some friends and neither the motion of the car nor being taken into two strange homes changed his easygoing disposition. Driving back through mountain forest land I pointed out a roadside picnic area as a nice place to release him. "Not so far from home," George said. So we kept him overnight again and then reluctantly took him to the kennel.

No More Visitors

Now winter seems definitely past and no more brown-and-white mice come to our house. What began as a means of getting mice out of the house without killing came to be a rewarding experience. The first mouse in our trap next fall will be an event, the beginning of a season.

Should you want to try our sport you'll have to make your own trap; we will neither patent nor manufacture the Mark II BMT. Any path to our door will be made by deer mice themselves, and they are welcome. As with all guests they must, in time, be ushered on their way. But while they are here we will enjoy them.



Spring Is Here!

By Ken Calnon

HOW SLOWLY the cold days of January and February pass; oftentimes we wish our days away, so to speak. We wish for something to come sooner than it is destined. Namely—spring!

Springtime is a season when deep snow and extreme cold weather are past, a season for regeneration of life, a season of planting, a season of new growth, a season of warm days filled with bright sunlight, a season of sweet-smelling rain showers in the forest or fields. With the arrival of spring, the remains of dark winter are transformed into new beauty. Even the air takes on a new, clean smell. Everyone and everything begins to live again.

Early spring is a time of variety; that is, as far as the weather is concerned. It may be sunny and warm one day, raining, sleeting, snowing or a duke's mixture of all three the very next day. The old saying, "If March comes in like a lion, it will go out like a lamb," holds much truth. This year the lion was really roaring! Snow on the first day of March, followed by more inclement weather. But all is in our favor—it can't last too much longer.

In the soft, moist ground of a nearby swamp the skunk cabbage is pushing its pointed hoods through the earth's surface. This harbinger of spring (the first wildflower of the season) is not disturbed by March's uncertain weather. The flowers are well protected by a hood-like spathe. An opening conveniently allows the honeybees to reach its stores of nectar and pollen when the weather warms a bit.

A certain male redwinged blackbird has been filling the marsh with his song of spring, or maybe he's telling the other birds to keep out,

this is his territory. The white-throated sparrows were really making a fuss in the leaves as they searched for food in a sheltered hollow near my home. I heard the noise, saw the leaves flying, but I had to look twice to see the little fellows.

A snowfall changed the scenery a bit during the night. I pictured the skunk cabbage poking their hoods through the new snow, a great horned owl incubating her eggs in a snow-covered nest high in a pine tree, and the tracks in the snow that will tell the whereabouts of every night traveler.

Case of Spring Fever

A week of warm weather—50 to 60 degrees—has given me a bad case of spring fever. Eagerly I rambled through the pages of my wildflower guide in anxious anticipation of the coming season. The mocking bird that hangs around my backyard also has a touch of spring fever. He sounds reveille about six o'clock in the morning, sitting on the television antenna, a mere ten feet from my bedroom window!

The grass has turned to an unbelievable green in a very short time since the recent rain shower. Everything looks much brighter and cleaner now. The air has a crisp, clear odor. The little brook in the meadow, swelled to the top of its banks from the rain, tells of spring as it babbles on its merry way.

Today a flock of robins gave my somewhat depressed spirits a real lift as I hiked through a high ridge field. It was quite a large flock, and it was good to see them again. Soon robins will be common nesting birds everywhere.

The flights of Canada geese returning to their summer nesting grounds

in the far north are sure signs of spring. Just to see or hear these great birds is enough to thrill any outdoorsman. They are majestic in flight, and possess great stamina to make the long journey.

On the ridge the trailing arbutus is in bud. In a few days its delicate pink and white flowers will open, filling the air with their pleasing fragrance. This plant is an evergreen, and is sometimes seen poking its blunt-shaped leaves through the snow, as if looking around for signs of spring.

The silver maple by the river is in full bloom, as are others scattered around the countryside. Their flowers are pale yellowish-green in color. Its cousin the red maple will soon follow with its flowers of bright red.

The woodchuck that lives on the side of the hill has been doing quite a bit of excavating this past week. Each day he piles more fresh dirt on the mound at the entrance of his den. The amount of dirt accumulated indicates he is doing extensive remodel-

ing in his large underground home.

The honeybees have been stirred into activity by the warm weather and are busy visiting the skunk cabbage. They are so eager to get to the flowers they have chewed holes in the sides of several hoods that had failed to open!

The Dutchman's breeches are blooming in full beauty in Brubaker's woods. The flowers look like trousers hanging upside down, hence the name. Their leaves and roots are poisonous to a degree. There have been reports of fatalities among livestock.

Dandelion Is Ready

On the sun-side of the hill the dandelion is ready for picking. The best time to gather it is before the flower opens, while the plant is still young and tender. Served with a sour bacon dressing, salt-water potatoes and a slice of fried country ham, it makes a meal fit for a king.

The spring peeper orchestra was already in full swing when I arrived at their swampy concert area. Male American toads were also getting into the musical by adding their long trilling notes. Shining the flashlight around, I found a male toad with his air sac filled to capacity. He looked like he might burst at any moment from the strain! Further investigation found more toads and peepers singing. It was a real way-out musical.

A certain creek bottom I know is a natural wildflower garden in springtime. Immaculate white bloodroot, bright yellow trout lilies, delicate pink spring beauties, rich red columbines and dainty blue pansies add a wide variety of colors to the landscape.

The Juneberry is showing its feathery white flowers on the mountain and hillsides. It is often called shadbush by the old-timers, because it blooms at approximately the time the shad make their spawning runs up the river. Its berry-like fruit ripens in June. Make a mental note of the



I FOUND A MALE TOAD with his air sac filled to capacity. He looked like he might burst at any moment from the strain! It was a real way-out musical.

locations of several trees. Their fruit is sweet and tasty when ripe. You should try it.

The "woodland drummer" was atop his favorite log at the foot of the mountain this evening. Although I didn't see him, I knew he was there by his drumming. The male grouse chooses a large rock, stump or most often a log on which to do his performance. He stands on his chosen spot and begins by beating his wings slowly, then steadily increases the beat until his wings are but a blur. His beating wings produce the "drumming" sound with which Ol' Ruff is trying to impress a female grouse. A drumming log often shows worn spots from the tips of his wings brushing against it.

Along a fencerow the redbud and dogwood trees are in full bloom. The redbud's pea-shaped blossoms of reddish-pink are outstanding in color against a bright blue sky. The flowers of the dogwood are very unusual. The petals are really "bracts" that have protected the flower center during the winter. With the arrival of warmer weather the bracts begin to swell and gradually open. At first the bracts are greenish-white. As they grow to full size they turn to almost



THE "WOODLAND DRUMMER" was atop his favorite log at the foot of the mountain. I didn't see him, but I heard his drumming.

pure white. A reddish-maroon mark is seen on each bract tip. This mark comes from being exposed to winter's cold weather.

Yes, whether I hike on a mountain-top, hillside or a valley path, all of nature cries . . . spring is here!

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Prickly Prince of the Pinegroves

By Thomas Fegely



IT'S DOUBTFUL IF ANYONE would accuse the porcupine of being the handsomest critter in the woods . . . even another porky.

THE EVENING SUN cast its long red rays between the tall oaks and pines somewhere in a forest in northern Pennsylvania, coloring the snow an unnatural pink. In and out of the shadows stalked a young bobcat, cold and hungry after several days of unsuccessful hunting. Suddenly, a movement atop a snow-laden stump caught his attention. The cat crouched and cautiously moved toward the waddling form. With a quick burst of speed and a final leap he landed atop the slow-moving prey. A chilling scream echoed through the dimly lit trees, breaking the stillness of the evening. The young bobcat rolled on its back and clawed at its face, attempting to rid itself of the painful needles which penetrated his tongue, cheeks and paws. Each desperate movement only drew the barbed quills farther into the cat's body. The lowly porcupine slowly climbed a nearby pine, glancing down occasionally at the crazed cat thrashing around in the snow.

Throughout eons of time, occurrences such as this have taken place in the north woods. Besides the bobcat, other victims include foxes, cougars, wolves, coyotes and great horned owls. Occasionally an innocent but curious deer has been lashed by the porky's spiny tail and consequently had to spend its last days wandering blindly until it was brought down by a predator or died of malnutrition. The only creature in the region that has ever consistently preyed upon the porcupine with success has been the fisher. Today, with the fisher being extinct in Penn's Woods, the porky's worst enemies are lice, ticks, fleas, forest fires, disease, automobiles and trigger-happy hunters.

The porcupine is a large rodent, sometimes reaching 40 inches in length, including the tail. An adult may weigh over 20 pounds. It has bright orange incisors, and body color is slaty to brownish-black. Its spines are white with black tips. Its face is blunt, rather snout-like, with dull

black eyes. All in all, few people would call the porky handsome.

One Who Rises in Anger

The name porcupine, translated from its Latin derivatives "porcus" and "spina," means "spine swine." Its scientific name, *Erethizon dorsatum*, freely translated means "one who rises in anger."

If left alone, the quill pig is a peaceful creature and actually makes a good, if not cuddly pet. Contrary to legendary stories, the porcupine does not throw its quills. I have walked alongside of a porcupine for several hundred feet, completely ignored. On other occasions, when I tried the same thing, the porky did indeed "rise in anger," fanning out his quills and rapidly swishing his tail back and forth. Each seems to have a personality all its own.

To make up for its poor eyesight, the porcupine has an excellent sense of smell and a good sense of balance. It uses its nose constantly for finding suitable food, locating others of its kind or detecting danger. An inhabited area with a strong odor of dogs may be avoided, but woodland cabins or lumber camps often attract the porky in its search for salt. De-

spite the many salt licks placed for cattle or deer, the porky prefers to gnaw on items which have accumulated salt residues due to human perspiration. Saddles, ax handles, paint brushes, ladders, rubber hoses and leather goods are all a part of the porky's diet, if available. Many a cabin owner has returned in the spring only to find window sills, chopping boards and furniture chewed by the uninvited visitor.

Only One Cub Each Year

Porcupine young are born in the spring after a gestation period of about 215 days. Customarily, only a single offspring is produced each year. At birth the baby porcupine, sometimes called cub or porcupette, weighs 12 to 20 ounces—approximately twice as much as a black bear at birth. As soon as the youngster is dry, its quills become sharp and it can climb a tree when only two days old. Although the porky will take milk from its mother for more than a month after birth, it starts to feed itself in about a week. Mother and offspring will remain together throughout the summer but are seldom seen with each other. They will poke their way through the forest, occasionally grunting and sniffing the air to keep in touch with one another. By the second year the youngster is sexually mature and ready for mating.

Mating takes place sometime in fall or early spring. Prior to the mating act, courtship displays of rubbing noses, chattering teeth and walking on the hind feet may take place. Mating is done in the manner characteristic of all four-footed mammals.

Diet of Bark to Berries

Despite the single offspring and the long gestation period each year, porcupine populations hold their own and in some areas may reach great concentrations. When over-population occurs, lumber companies often eradicate porkies by shooting or salt-poisoning. In this day of scientific



PORCUPINE SKULL shows long incisors (one upper missing) and large molars which adapt him well for peeling and chewing bark.

timber management, damage done by the porcupine is often exaggerated, although it is a fact that the porky prefers to gnaw on trees that are desirable for lumber products.

The diet of the porcupine varies with the seasons. During any time of the year, however, this hunched mass of quills can be seen sitting high up in a pine, maple, birch or spruce, gnawing away at the bark or buds. Because of the abundance of beech trees in Pennsylvania, feeding on them is common and is usually done at the base of the tree. This may in part be due to the difficulty in climbing up the smooth bark.

Spring and summer foods may range from watermelon to clover to buds and twigs. Fall and winter feeding is confined largely to the soft inner cambium layer of trees, the bark, and evergreen needles. Since porkies do not hibernate, any species of tree may be fed upon during severe winters.

Although principally nocturnal and solitary, several porkies may shelter together in winter in a favorite den in a rock outcropping. During severe blizzards and on sub-zero days when icy winds whistle through the pines

and hemlocks, a porky might be seen feeding on evergreen needles or pruning the top of a dormant tree, creating a shaft-like appearance. These trimmings play a minor role in supplying food for deer and rabbits to feed upon in times of heavy snow. When deep snow is on the ground, a porky may stay in one tree for several weeks, stripping it of its branches and bark. During opening day of the 1964 deer season, I observed a lone porcupine crouched in a hemlock in a remote section of McKean County. I saw him again the next two Saturdays. Cut boughs littered the bare ground beneath the tree. Oddly enough, there was only light snow cover during the two-week period, over which the porky could have easily traveled.

Secret Weapon—Barbed Quills

As nature has endowed so many of her creatures, especially the vulnerable, with some form of escape or defense, the porcupine is probably one of the most fortunate. The skunk's pungent odor has little effect on the great horned owl. Rabbits, squirrels, beavers and other rodents have evolved means of quick escape, whether by running, climbing or swimming. The porcupine, also a rodent, not being adept at making speedy escapes, must rely on the 30,000 or so barbed quills which adorn his back, side and tail. At rest they lie flat and are sandwiched between the long, bristly guard hairs and the stiff, insulating underfur. Each quill tip possesses many microscopic barbs which slowly and painfully work their way into the victim's flesh with each muscular movement. In appearance, they are similar to the shaft of a bird's feather; they are actually modified hairs. Few dog owners in the North have avoided the unpleasant task of plucking quills from a moaning hound's face.

Quills deeply embedded cannot be pulled out by hand. Home remedies



for their removal include swabbing with vinegar or oil before their extraction and twirling the quill and twisting it out. Actually, a quick jerk with pliers works best. The quill shaft is not hollow and cannot be softened by solvent. Thorough cleaning of the wounds with disinfectant is also recommended.

The porcupine knows of the usefulness of its quills and takes full advantage of them. Typically, when approached, the porky will automatically assume its defense position, turning its back, erecting the quills and switching its tail back and forth. In my observations of a caged porky I found that blowing against its back was sufficient stimulus for him to assume a defense position. Reaction was immediate, whether the porky was wide awake or sound asleep.

During shedding time the cage bottom became littered with hundreds of quills, as well as guard hairs and fur. As each quill is lost, another begins to grow in its place.

Besides being used as a mace, the eight-inch spiked tail also acts as a spur when climbing trees and as a balance when sitting.

Although his front teeth can easily bite through a man's finger, the porcupine prefers to rely on keeping you in full view of his spiny backside. Porkies frequently take to water as a means of escape and are good swimmers, aided by their buoyant quills and guard hairs.

Unpleasant Odor

As a junior high school biology teacher, I am often blessed with playing nursemaid to squirrels, raccoons, snakes, skunks and a variety of other wild creatures. No other animal hastened the opening of classroom windows each morning as did the porcupine. His odor may be likened to that of a combination of ammonia and rotten wood. In the wild, this is of benefit to the porky in enabling it to detect others of its kind in the vicinity



USDA Photo

PORCUPINE DAMAGE TO beech trees is often limited to the base, due perhaps to the difficulty in climbing the smooth bark of this species.

and either avoid them or find a mate in the fall. But take it from me—it isn't pleasant anywhere indoors.

Depending on the porky's diet, his droppings may include bits of undigested wood. During the colder months of the year, more and larger wood particles will be intermixed with the undigested material, due to the increased amount of bark and twigs being eaten.

Nature's Delicate Balance

For years the porcupine has led a solitary and independent existence. The Indians used his quills for decorations. The lumbermen slaughtered him because of the damage inflicted upon prime trees and on personal articles around camp.

Let's not be too quick to judge the seemingly useless quill pig. His presence in our forests, parks and camping areas should serve to remind us of the niche filled by every form of life, no matter how insignificant it may seem. The unforeseen role played by this prickly prince of the pinegroves may not be understood until after he is gone.



HARRY BATHURST of Blanchard, above, and party with 460-lb. bear taken in Clinton County. Below, **Roger Jayne**, Laceyville, with his 410-lb. bruin taken with trapdoor Springfield 45-70. Right below, **Wellington DeHart** of Reading, with his 180-lb. blackie and members of his hunting group.



JOSEPH GRELO, right, Dury, go County while hunting with Dic Gre Jim O'Boyle, Avoca. DGP Han Gee hunter's tag.

Keystone Ea

THE WEATHER WAS ed a Pennsylvania's black bear and but this did not keep Keystone h time to head for the mountains, our largest game animal, ter of always ready to pit their experience this clumsy looking but deep sharp-eared trophy. That sole proved by these photos, and we who brought home a bear, is hunting career.





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Grello, Pittston, and Bill and
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**PETER BELL, Morrisville, above, and his
200-lb. trophy taken in Clinton County. Be-
low, Harold Woods of New Castle with 375-lb.
bear bagged in Elk Run, Warren County.**

Photo by Thad Bukowski





FIELD NOTES



Fringe Benefit

CENTRE COUNTY—The corn crop was exceptionally good in this district in 1969. Since just about all the corn is harvested with mechanical pickers, a lot of grain is left in the fields for one reason or another. A lot of doves are seen working over these fields. Now that the snow has covered the fields, one flock of about 200 birds is taking advantage of a pile of corn in an open crib. The farmer filled the crib and just had to pile the extra somewhere. A number of deer have also been seen digging down through the snow to find ears that the picker dropped off.—District Game Protector A. J. Kriefski, Centre Hall.

Aw, Come On . . .

BEDFORD COUNTY—Overheard: Jacklighters were so active in that area, Santa had to make daylight deliveries to protect his reindeer. — District Game Protector T. Barney, Everett.



That's the Question

CLARION COUNTY — A muskrat trapper in the Knox area sat down and started skinning his catch. One of his rats had a cut about two inches long on its back. Upon investigating a little closer, a piece of glass from a broken bottle was found embedded in this skin. What will happen to our streams in the future, if man doesn't stop dumping his bottles, cans, and rubbish into them?—District Game Protector L. L. Harshbarger, Knox.

Safety Course Pays Off

SNYDER COUNTY — Deputy Charles Stroup, who assisted in a hunter safety course in Middleburg, related the following tale. It seems one of the students, a Mike Mengle, was hunting with his father the first day of antlerless deer season when two does came up to them. The father felled his doe but young Mike only wounded the second one. While tracking the doe, Mike saw it standing just after he had fallen and gotten snow in the gun barrel. Young Mike calmly unloaded the gun, removed the snow from the barrel, reloaded and shot the deer, his first. While relating the story to Deputy Stroup at his home, Mike's mother asked the youngster why he unloaded his gun while the deer was standing. Young Mike replied, "Mother, when we took the hunter safety course they told us if you had something in the barrel and shot, the gun could blow up and maybe hurt someone."—Land Manager I. Dodd, Beavertown.

A Different Viewpoint

CRAWFORD COUNTY—Deputies Oates and Brown and I were checking cars during big game season. When an auto approached in a desolate area, we stopped it, but it was apparent the driver was no hunter and we advised him that he could go on, as we were looking for hunters. The man looked thoughtful and asked if this was deer season. When advised it was, he stated, "Why are you looking for hunters now, if there is a deer season in? Why not look for them when there isn't any season?" We didn't quite have a good answer for him.—District Game Protector L. V. Haines, Linesville.

One Explanation

CARBON COUNTY—While searching for a lost hunter one evening during the first week of the buck season, I talked to several men who had been hunting in the general area. None of these hunters had seen or heard of my unfortunate nimrod, but they did tell me that there were no deer in the area and the Game Commission should do something about it. Early the following morning when we found the hunter who had spent a comfortable night by a fire, and after being certain that he was in good condition, I asked him if he had seen any deer. He said, "They are falling over each other back there." I asked him if he could explain why he, a stranger to the area, saw deer when the others thought there were no deer? Then he made another statement that confirmed my suspicions, "They don't get off the road." I've suspected for a long time that the fellows getting the game are those getting back into the woods, and the ones that are always complaining about the scarcity of game are usually the hunters that you can see from the road.—District Game Protector C. E. Burkholder, Weatherly.



Just a Fooler

BERKS COUNTY—During the antlerless season one of our deputies noted a man apparently carrying a gun on a sling, but no license was visible. When the man was checked it was found that he was carrying a gun stock on which was mounted a telescope. He was one of the many interested persons who assist in the annual bird census.—District Game Protector J. A. Leiendecker, Reading.

Thanks

SULLIVAN COUNTY—On the afternoon of November 29, 1969, a serious hunting accident occurred in the Hunters Lake area in Sullivan County. Through the assistance of a number of sportsmen who were hunting in the area, the Department of Forests and Waters, the Pennsylvania State Police and the Laporte Borough Ambulance Company, the victim was removed from the woods and taken to the hospital, where he responded to treatment successfully. Since many of the individuals who assisted in this time of need are unknown to me, I would like to thank them here for their response during this emergency.—District Game Protector D. J. Adams, Eagles Mere.



Great Guide!

ERIE COUNTY—A story related to me by one of his fellow officers from the Girard State Police goes as follows: Trooper Bill Marino went deer hunting with a local and experienced hunter. After they found a set of tracks, the experienced hunter told Bill to stand on watch and he would chase the deer to him by following the tracks. And so he went out through the woods, along fallen trees, etc. One time he was almost stymied when the tracks disappeared at a tree; however, our experienced tracker found that they came down the far side of the tree and after following them for a distance, they disappeared down a woodchuck hole. No venison, but a lot of good-natured kidding in the substation after that.—District Game Protector R. Meyer, Fairview.

An Honest Man!

YORK COUNTY—On the last day of antlerless season I met a hunter and his son who had just brought a large deer out of the woods. It was shot high in the neck. I commented that he had made a nice shot on the deer and in the right place. He answered, "Thank goodness for tall deer, or I'd have missed him clean."—District Game Protector R. L. Yeakel, Red Lion.

Our Kind of Gal

MERCER COUNTY—On December 27, 1969, I received a letter from Miss Vonda Pear of Greenville, informing that her brother had shot a ring-necked pheasant and an examination of the gizzard revealed 13 brass buttons, four of which she sent to me. This was a very interesting find, but of more interest to me is that Miss Pears is only 10 years old and yet is interested enough in game to investigate the insides. Miss Pears also added a P.S.—"I read the **GAME NEWS**."—District Game Protector B. Ray, Sheakleyville.



Just Lookin' for a Home

LANCASTER COUNTY—A repairman for a furniture store in Quarryville received a call from a lady complaining that the automatic dryer kept shutting off when she was attempting to dry a load of clothes. He checked everything and finally removed the exhaust pipe and found it to contain a live rabbit. The rabbit must have gotten into the pipe, come down it and gone into the dryer, because it was headed out but could not get up the slippery pipe. He removed the rabbit and released it, apparently unharmed despite its experience.—District Game Protector J. P. Eicholtz, Strasburg.

Dead-Eye Who?

BLAIR COUNTY—During the recent deer season I talked to two hunters who seem to be in need of some target practice. I checked one deer that the lucky hunter said took 22 shots to bring down, but there was only one bullet wound in the animal. He didn't know what happened to the other 21 shots. The other hunter said that he'd have to get his deer with one shot, since he had already fired 19 without hitting anything. He had only one cartridge left out of a full box and nothing to show for it.—District Game Protector J. A. Lukas, Hollidaysburg.

Some Tough Ones

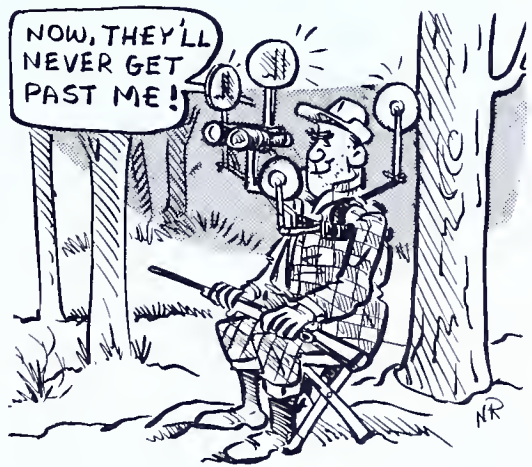
WARREN AND FOREST COUNTIES—The snow had adverse effects on the hunter population in this area after Christmas. Very few hunters have been observed, although some dyed-in-the-wool bow hunters roughed it in the 15 to 20 inches of snow.—Land Manager A. D. Fichtner, Grand Valley.

Warning

VENANGO COUNTY—It is most unfortunate that the sport of hunting—a sport offering so much at so little cost for so many—can be marred by the thoughtlessness of so few. I observed and heard of more unsportsmanlike conduct in 1969 than in any previous season. The hunter himself had better take drastic means to police his own sport. I have seen more posted land in northwestern Pennsylvania than in any previous year. I have heard reports of more landowners intending to post their land than ever before. As with many of our other democratic privileges, there is an element that threatens the very existence of this recreation.—CIA R. D. Parlamen, Franklin.

Can't Rattle This Buck

LYCOMING COUNTY — While I was traveling the Cedar Run area, the antlered deer season opened with a single shot. I looked down a slope and saw a group of hunters walking toward Pine Creek. As I approached, I stopped to talk to two of the members standing along the road. The two hunters told me they had just started their first drive when one of their watchers shot. The watcher told the other members that he had hit a four-point buck that was now heading slowly down toward the creek. I talked to the hunters for several minutes and as I departed, not more than 75 feet away, around a turn in the road, stood a tall, very much alive, 4-point buck, nonchalantly feeding along the road.—District Game Protector D. A. Bernhardt, Jersey Shore.

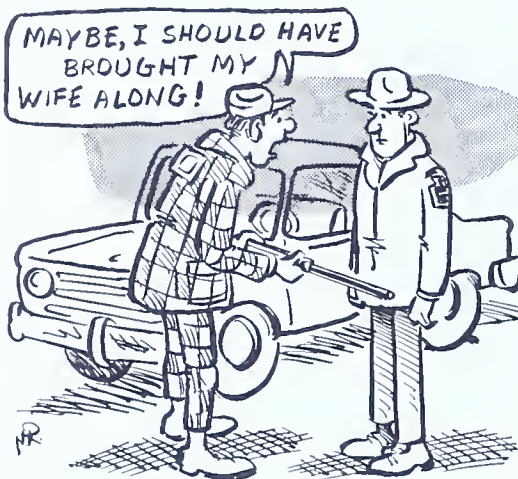


A Thinker

CENTRE COUNTY — A hunter on State Game Lands 33 wasn't taking any chances of his buck sneaking through without being seen. He used his binoculars to catch any movement ahead of him and a rear view mirror to catch any movement to his rear.—District Game Protector M. Grabany, Philipsburg.

Just Another Goodie

BEDFORD COUNTY—Deputy Bob Burkett tells me that a friend of his was washing his car when he noticed a great horned owl perched in a nearby tree. Yelling and blowing the horn did not seem to bother the owl, so he threw a well-soaked sponge at it. He missed and the sponge fell to the ground. Before he could recover it, the owl flew down, picked up the sponge and took off for parts unknown. I've heard of animals sponging off people before, but never to this extent.—District Game Protector C. Williams, Bedford.



We're Glad Too!

CLEARFIELD COUNTY — After citing a hunter for carrying a loaded firearm in his vehicle and explaining the dangers of this violation, Deputy Punchios and I were told that he was indeed sorry he had broken the law but very glad we had stopped him and unloaded the rifle for him since he "didn't know how the darn thing operated!" He added that his wife had loaded the rifle for him before leaving home and he was very concerned as to how he was going to "get the \$\$\$/\$&° thing unloaded when he finished hunting!"—District Game Protector G. J. Zeidler, Rockton.

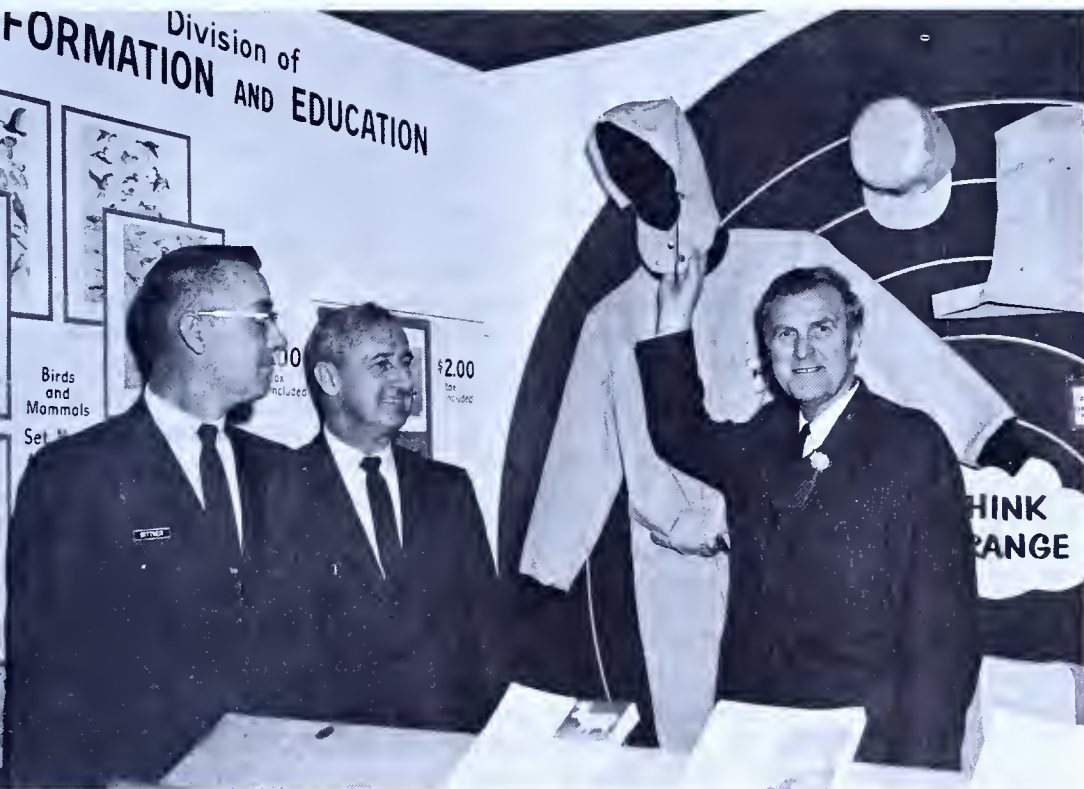
Changing Times?

POTTER COUNTY — During the past season, I had an example of what hunters can do to stop the wanton shooting of deer and leaving them in the field. The last day of the antlered season while I was on patrol, two New York nonresident hunters came to me and said they had observed a man kill a deer and not even go to it. They agreed to go to the scene and point out the man who had killed the deer. We started back. A couple of miles from where the deer was killed, we met a car and the two men told me the hunter was in it. I checked the hunters and the two men pointed out the man and told him they would gladly return for a hearing and appear against him. After hearing this, the defendant pleaded guilty to killing an antlerless deer and settled on a field receipt. Such actions can do more to stop this kind of violation than anything else, as a hunter does not expect other hunters to take the time to see that he is apprehended when he commits a serious violation. — District Game Protector W. D. Neely, Austin.

Just Visiting

ELK COUNTY—On Thursday, December 4, during the first week of antlered deer season, five bull elk invaded the city limits of St. Marys. Several very excited people phoned my wife to say that the elk were standing on their sidewalks, running through fences and lawns and down the street. The elk found their way out of town and disappeared about as quickly as they came. Several people reported sighting the five bulls together since this occasion. They were still wandering around very close to town. The heavy hunting pressure in the areas where they normally roam evidently forced them into the open farm country and into town.—District Game Protector H. D. Harshbarger, Kersey.

CONSERVATION NEWS



PGC Photo by Ralph Cady

GOVERNOR RAYMOND P. SHAFER, visiting the Game Commission booth at the Farm Show with CIA Lowell Bittner and I&E Chief Roy Trexler, took time to get in a favorable comment on the use of fluorescent orange clothing by hunters.

Tentative Opening Dates Set for 1970 Hunting Seasons

Tentative opening dates for Pennsylvania's small game hunting seasons established by the Pennsylvania Game Commission at its January meeting in Harrisburg were:

Early Small Game	Saturday, October 17
General Small Game	Saturday, October 31

The opening day of the regular antlered deer season was previously established as Monday, November 30.

The Commission took no action on bear or archery deer season opening dates, pending further analysis of data on big game populations.

Official dates, lengths of hunting seasons and bag limits will be established at the June meeting of the Commission.

Game Commission Completes Extensive Land Exchange

THE Pennsylvania Game Commission on December 30, 1969, concluded the largest land exchange in its history, involving over 7000 acres in Dauphin County.

The exchange, made in an effort to serve the best interests of the general public, gained for sportsmen thousands of acres of valuable land which will be used for public hunting.

Completion of the transaction also will enable the Pennsylvania Power and Light Company to create a pumped storage generating project designed to help meet peak demands for electrical power.

PP&L deeded to the Game Commission 5469.2 acres in Middle Paxton, Wayne, Rush and Jefferson Townships. In exchange PP&L received a deed for 1702.2 acres in Middle Paxton and East Hanover Townships.

Tracts acquired by the Game Commission are along a seven-mile stretch on both sides of Pennsylvania Route 325 west of the city of Harrisburg reservoir property in Clarks Creek Valley between Third and Peters Mountains.

Land conveyed by the Game Commission is located at the juncture of Sharp and Stony Mountains and along Stony Creek Valley north of the Edward Martin Military Reservation.

PP&L, after intensive investigation of sites throughout the region, determined that the location on State Game Land 211 was the only suitable site for its power project. Had the exchange not been made, sportsmen un-

questionably would have lost the hunting acreage gained to private development.

In addition to the exchange of land, the Game Commission will receive \$5000 per year when the pumped storage project becomes operational and continuing for the life of the project. If the project is ever discontinued, land conveyed by the Game Commission will be returned to the Commission.

The acreage acquired by the Commission is being incorporated into State Game Land 211 and will remain in Commission ownership, regardless of the future of the project.

After construction of the facility is completed, only about 500 of the 1700 acres will be closed to sportsmen. The other 1200 acres will remain under PP&L ownership, but will be open to public hunting.

Two reservoirs and a pumped storage station will be built by the private utility. A large, lower-level reservoir will be located on Stony Creek, and a smaller reservoir will be constructed in a high valley at the junction of Sharp and Stony Mountains.

The lower reservoir will be open to fishing, and the utility plans to build piers on the reservoir for the convenience of fishermen, as well as other public recreational use facilities. Annual stocking of fish in the lower reservoir and parts of Stony Creek is also planned by the company through arrangements with the Pennsylvania Fish Commission.

Agreement for Wildlife Food and Cover

In July, 1949, a Joint Agreement was made between the Pennsylvania Game Commission and the U. S. Forest Service for the development of food and cover for wildlife on the Allegheny National Forest. A previous Memorandum of Understanding was signed in 1938, but actual cooperative action was not taken until 1949.



BOY SCOUTS of Troop 31, DuBois, under the direction of DGP Gerard Zeidler, Scoutmaster Sherman Horn and Assistant Fred Morgan, made wood duck nesting boxes during a camping trip as part of their continuing efforts in the cause of conservation.



WHEN A PET PONY owned by Kenny, Karen, Donnie and Debbie Dean, RD 1, Pleasantville, was shot, the act was mentioned to the Venango County Federation of Sportsmen's Clubs by DGP Lorraine Yocum. The clubs bought another pony for the children as a Christmas gift.

Book Review . . .

Checkering and Carving of Gunstocks

Chances are, cavemen scratched designs into their spear handles, either to provide a no-slip surface or perhaps from artistic urgings. In the millenia since, that beginning probably developed into the checkering and carving seen on many of today's gunstocks. For some reason, most gunners believe it's easy to checker. It'd be hard to be more wrong, if you're talking about good checkering, though a poor job can be managed by most anyone. This book, first published in 1952 and recently reissued, can get the beginner off to the right start by showing him the exact procedure to be followed for dozens of checkering and carving designs of varying degrees of difficulty and impressiveness. As with many endeavors, what appear to be the simplest are usually the best—and quite likely the hardest to do. A group of the country's top stockmakers, including Alvin Linden, Leonard Mews, Tom Shalhamer, Keith Stegall, Dale Goens and Jerry Fisher, have supplied full size illustrations of their favorite patterns which can be traced and transferred to a stock. Each is explained in full, with added comments by Kennedy, who knows whereof he speaks. Here's dope on all the checkering types—American sharp-pointed, English flat, French skipline, and combinations—plus much carving information. Good photos illustrate all. A highly useful book for anyone who wants to try improving the looks and feel of his pet game getter—as did the cave-man of old! (*Checkering and Carving of Gunstocks*, by Monty Kennedy, edited by Thomas G. Samworth. Stackpole, Cameron and Kelker Streets, Harrisburg, Pa., 1969. 336 pp., \$10.)

A British Look at American Hunting

By John Madson



PGC Photo by Fred Serevy

LLOYD RHOADS, Laughlintown, with 13-point, 145-lb. buck taken during the past season in Westmoreland County. Such hunting is not available to everyone in England.

IN 1968, an English wildlifer named W. A. Newlands spent three months in the United States surveying our game management programs and hunting methods. His report was made recently in the bulletin of the Eley Game Advisory Station, and was a terse summary of the American wildlife scene. Newlands' main observations were:

1. The ideal of "free hunting" as established by American settlers is becoming unworkable in the 20th Century.

2. The American hunter expects free access to large tracts of land in exchange for a license fee. The essence of his sport must be "rugged." The average American takes delight in his equipment and techniques, and seems to have submerged his urge to kill a large bag limit under a warm feeling of "backwoodsmanship."

3. The American system of state-managed game is unrewarding for the man who wants to "put something

back" on his own land. Since the man who maintains the game habitat fails to be rewarded, it is not surprising that farmers on good land make almost no effort to conserve game.

4. Total money spent on hunting is very high; the proportion spent on game management is very low.

5. The complexity of American game laws is astounding. Yet, the problems of North American wildlife populations emphasize that laws cannot enforce conservation; this has to be in the hearts of those who actually live on the land.

Will Newlands has a keen and penetrating eye; his points are well taken. But while his eye is sharp enough, there's something wrong with his perspective. He saw some very American things while he was here, but through eyes that were very English.

The basic difference between American and English hunting, of course, is that English game is owned by the landowner. In North America, game is public property. Newlands indicates that this is the great basic flaw in American game management, since landowners are not inclined to manage wildlife unless they are rewarded in money, special hunting privileges, or both. Yet, this is a flaw that we'll just have to live with, for the concept of privately owned game turns the average American hunter red, white and blue.

There are also deep differences between American and English hunting traditions. Our tradition was molded by many things, but the main ones are 1) a vast land area, 2) a great variety and abundance of game species, and 3) a concept of free hunting for every man. Add to these another factor, one that Newlands sensed as "backwoodsmanship." It's more than that; in our hunting we relive our

national youth, and savor a measure of the richness and freedom that set us apart from all other people and all other times. In one sense, our act of hunting is a thanks-giving as unique to North America as the holiday of that name.

All of this is wholly alien to European concepts of hunting. So is the fact that any honest American can so easily obtain, keep and use a shotgun or rifle. In Europe the rich man has the best hunting (and often the only hunting); in North America the rich *may* have the best hunting, but don't count on it. The American who has the best hunting is the man who devotes much time, effort and affection to his sport, and that may or may not involve much money.

But of all the things that distinguish American hunting, none is more unique than our system of game management. Nowhere else are hunting seasons and bag limits so carefully adjusted to game species by trained game managers and biologists, and enforced by a trained corps of state and federal officers. Nowhere else does the land yield such per capita harvest of game—and yields it to men in all stations of society.

Such a system would never work in Europe and it has many shortcomings here, as our friend Will Newlands pointed out. But for all this system's flaws, we are certain that North America will be the world's last great bastion of wildlife, and man's last great hunting grounds.

Game Commission Receives \$1,280,101 in P-R Funds

The Pennsylvania Game Commission announced that its share of Pittman-Robertson Wildlife Restoration and Research Funds for the 1969-70 fiscal year will total \$1,280,101.82, an all-time record.

E. G. Musser, Pittman-Robertson coordinator, said the Game Commission's final allotment of the federal funds was \$553,180.35. This is added to the initial allotment of \$726,921.47, received last summer. The federal funds are used for the Game Commission's wildlife habitat development and research programs.

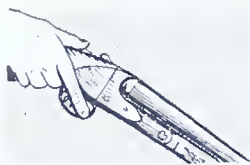
The prior record apportionment was \$1,175,476.68, received just last year. As a further indication of the tremendous growth in the interest in sport hunting, the state's allotment four years ago was \$659,727, just about half of the present apportionment.

Nationwide, the distribution totaled \$31,675,000, up from the \$30,320,000 provided in 1968-69. Each state's allocation is based on the number of paid license holders and land area. Only Alaska and Texas, with \$1,582,250 each, and California, with \$1,549,713.83, received larger apportionments than Pennsylvania. All three states have much larger land areas, but far fewer hunters.

Federal aid programs for wildlife restoration are administered by the U. S. Department of Interior, Bureau of Sport Fisheries and Wildlife. Funds come from excise taxes levied on sporting arms and ammunition. Under the program, states spend their own funds on approved projects and are then reimbursed up to 75 percent of the cost.

Pennsylvania's First Game Law

Pennsylvania's first Game Law was enacted by Sir William Keith, governor of the province, on August 26, 1721. It protected deer only, during the period of January to July 1. Fine for violation of the law was 20 shillings.



HUNTER SAFETY EDUCATION



PGC Photo by Steve Kish

DAVID SHUKLISS, one of 41 students who took hunter safety course at West Side Boys Club, Scranton, receives his card and brassard from **Walter Smith**, instructor.

Different . . . but the Same

By Wes Bower

SINCE ITS founding 98 years ago, the National Rifle Association has been vitally interested in the field of firearms safety education.

The NRA Hunter Safety Program, as presently administered, was established in 1950. At that time the principal purpose was to assist the state of New York in certifying students under a recently enacted mandatory training law. With this beginning, hunter safety training soon received nationwide interest. The NRA then accepted the responsibility of promoting a national program.

Realizing the value of this instruction, various states and provinces be-

gan inaugurating their own training, and today 40 states and six Canadian provinces have accepted the responsibility of administering their own program in cooperation with the National Rifle Association.

The NRA also serves as a clearing house, and monthly reports of students and instructors are forwarded to their Washington headquarters. They also provide training aids and encourage the exchange of ideas by participating states and provinces.

Although the states do coordinate their activities with the NRA, the methods and type of training are not always entirely the same. This is be-

cause geographical location and the type of hunting available are important factors when determining the manner in which the course is presented.

The basic NRA hunter safety course is a four-hour program. However, at the discretion of each state it may be lengthened to include watercraft safety, fly tying, first aid, survival, shooting, and other related outdoor subjects.

One example of variations in state programs is the shooting program. In 11 states it is a required part of hunter safety training. In Pennsylvania, when range facilities are available, many instructors and organizations utilize shooting as a part of their training program. However, the majority of training is given, and quite successfully, without actual shooting.

The length of the hunter safety training also varies considerably. Some states require as much as 40 hours of instruction, while others present their course in the minimum of four hours. The average length for both mandatory and voluntary programs is approximately six hours.

Statistics show that over 50 percent of all firearm accidents occur in the home. With this factor in mind, 28 states include gun safety in the home as part of their training program.

Survival in the field, although considered only briefly in many courses, is strongly highlighted in many Western states and Canadian provinces. This is primarily due to the fact that the large tracts of wilderness in these

areas often result in many hunters becoming lost. Weather is often severe, and survival ability in these areas then becomes of prime concern. One unique Canadian program involves instruction to residents of remote Indian villages, with interpreters providing the language necessary for teaching.

These and other aspects of training give testimony to the fact that hunter safety training is presented in different manners in different areas.

However, the basic NRA outline is used as a guide in all states and a common goal—the reduction of hunting accidents—is sought for all.

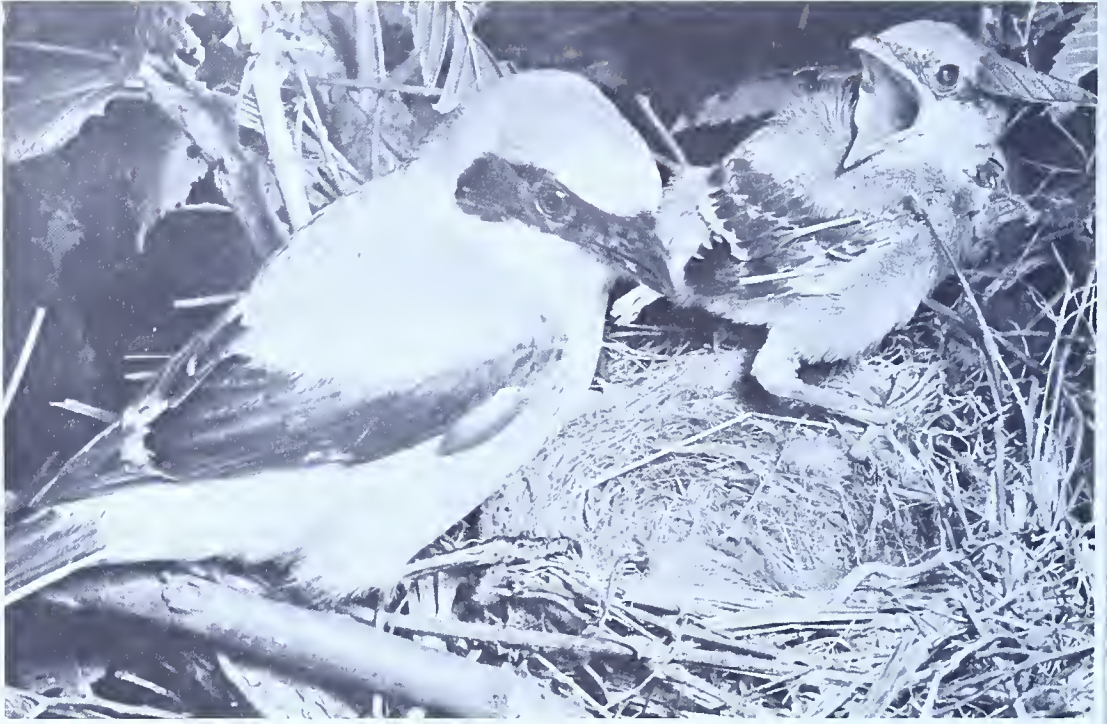
Statistics from all states and provinces have been very encouraging. Studies in the United States and Canada show that, considering the increase in hunters and leisure time available for hunting, accidents are apparently decreasing. This trend is very noticeable in the young hunter accident category.

With the beginning of mandatory hunter safety training in this Commonwealth, Pennsylvania has joined the ranks of 15 states and two Canadian provinces which now require compulsory instruction before the purchase of a hunting license.

It is very encouraging to determine that the goals of hunter safety are being attained. The results of past accomplishments are an incentive to many instructors to increase their activities in the training program so that hunting and shooting are assured their rightful positions in the outdoor recreation field.

Think Orange

Safety experts readily agree on one subject—it's advisable to wear fluorescent orange while hunting. Statistics from all states and provinces show that wearing of safety-colored clothing results in reduction of accidents. It is every hunter's responsibility to see and be seen. Set an example for your fellow sportsmen by wearing fluorescent orange when afield. It is the easiest color seen under poor light conditions.



MOTHER "MASKED BANDIT" TRIES TO COAX the last of her brood from the nest, but Junior has other ideas—he is hungry!

A Close-Up Look at a . . .

Masked Aerial Bandit

By Robert H. Wright

MOST PEOPLE consider the days of rootin', tootin' renegades, outlaws and masked bandits gone forever, and no one expects to meet any of them today. Now they live only on the TV screen—at least, most of them.

Actually, one is still at large, and has been for years. He is still the masked bandit he was a century ago. But although this outlaw may terrorize many a fellow creature, he does not intimidate people: mostly because he is not big enough, but also because this character is only a small bird. He is called a loggerhead shrike by ornithologists (officially: *Lanius ludovicianus*), but nicknamed "butcher bird" or "masked bandit" by many Pennsylvanians.

The shrike's head markings resemble a mask, but it is his strange habits that have earned him the reputation of an outlaw. He is an odd bird, and difficult to label. He can hardly be called a songbird because his "song" is a harsh squawk that is most *unmusical*. The shrike is not exactly a bird of prey, either. He catches prey as hawks and owls do, but he does not have their sharp talons.

This feathered bandit is no larger than a robin, but he is much bolder. You would not expect to see such a small bird dart from a tree and snatch up a mouse, or even a snake, but that is just what the shrike does. Since he does not eat seeds, he must catch small animals for food. Most of his

food is insect life, such as beetles and grasshoppers, but he will not pass up lizards, small snakes or rodents. As he perches on a limb or a fence, his sharp eyes scan the countryside for a possible meal. If he does not soon spy a mouse or grasshopper he may settle for a small bird.

The shrike often is accused of slaying sparrows and some songbirds, but he usually goes after easier prey. Catching a beetle is much easier than a bird. But like most wildlife, the shrike will attack anything he thinks he can overpower, if food becomes scarce.

One of the strangest things about this bird is his habit of hanging his prey on a thorn or the barb of a wire fence. Of course, he often eats his food at once if he is hungry, but he always puts part of his daily catch on a thorn or wire barb. It is quite common to see a barbed-wire fence or a thorny thicket decorated with a dozen grasshoppers that the shrike has impaled there.

Since Pennsylvania has its share of barbed-wire fences, and many plants and shrubs with a healthy growth of thorns, it is no wonder that many shrikes are to be found throughout the state. The northern shrike (*Lanius excubitor*), a close cousin to the loggerhead, may be found adorning barbs with its prey somewhere in the state the year around. The northern and the loggerhead look so much alike that it is difficult for most people to tell them apart. Since their habits are the same, they both get labeled as the "butcher bird."

For many years it was not understood why the shrike had this curious habit of impaling his prey. Many people accused him of doing it simply for meanness, but further study has shown that he is not really such a savage villain. Since the shrike does not have strong feet with sharp claws, it is difficult for him to tear his food into bite-sized pieces. So, the smart little "butcher bird" anchors his prey

on a thorn. Then he can tear it with his beak. It is still not known why he sometimes leaves some of his food hanging on the thorn. Perhaps he just flies off to chase another grasshopper or a mouse, intending to return and eat it later.

The shrike's table manners may not be very dainty, but he is always welcome on any farm. The insects and rodents he catches save the landowner many dollars in crop damage.

Helpful Against Insects

The shrike is especially helpful in controlling insects during the summer when he has hungry little mouths to feed. Butcher birds have large families, usually six, and they often raise more than one family in a season.

Shrikes are experts in the art of raising little ones. For the nest, they choose a sturdy forked branch in a small tree or shrub. In this fork they build an extremely solid nest of twigs and grass. It is deep so the little birds won't fall out, and it is lined with soft material such as cattle hair.

Butcher birds work hard building the nest and caring for their young, and they will protect the baby birds with a frightening display of anger. They squawk and scream savagely, and if this does not discourage the intruder, they may attack. Even an intruder as large as a person may get a painful peck or two from the shrike's sharp hooked beak.

The ways of the shrike may seem strange to us, but then, our ways probably seem strange to him. In many ways the shrike is an admirable bird. He is a good parent who will never be accused of neglecting his young. He helps the farmer control injurious insects and rodents. Still, though the shrike is not really the villainous outlaw he was once thought to be, his nicknames stick with him. But whether we call him "butcher bird" or "masked bandit" he is an important and useful part of the vast variety of Pennsylvania wildlife.

Save Your Pheasant Land

By Fred E. Hartman

PGC Wildlife Biologist

SINCE 1939, more than 3.8 million acres of farmland in Pennsylvania have been diverted to other uses that are usually detrimental to wildlife. With all the roads, houses, and urbanization replacing farmland, the pheasant is being eliminated from some once-productive areas in the state. Unfortunately, this habitat loss continues at an accelerated pace.

Many hunters either are unaware of or unconcerned about this loss of farmland. But the fact remains that pheasants (and other farm game) and farmland go hand-in-hand. Without proper habitat—usually extensive diversified farmland—high pheasant population levels will not exist. And yet, some hunters want to stock more pheasants in less habitat. If native pheasants cannot persist in an area, how can anyone hope that pen-reared birds will? Let's wake up and face facts. Scientific research data have proved that stocking adds only four percent or less to the pheasant harvest in good pheasant country. In poor quality pheasant range, stocking of male birds may double the take. However, the bulk of the harvest is made in the better pheasant range. Therefore, what is really needed is the preservation of existing farmland (thus, pheasant land).

Acreage Decreased

Although pheasant range acreage has decreased in some once-productive areas of Pennsylvania over the past 30 years, pheasant populations have increased in other areas because (1) ringnecks now inhabit areas where they were not found before, and (2) pheasant numbers have increased to such an extent that some once poor or mediocre range is now excellent pheasant country. Today,

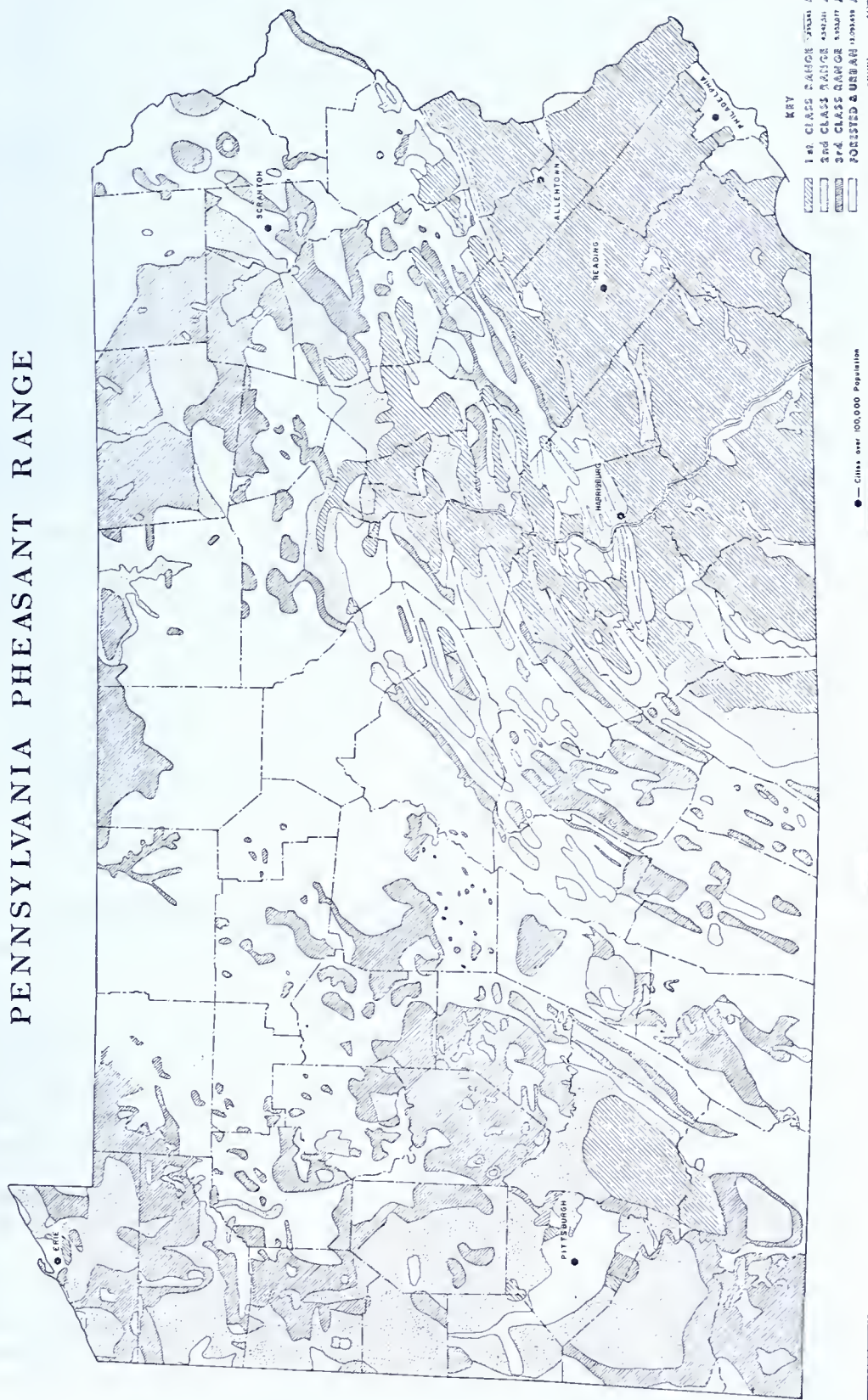
pheasants occupy almost every niche in the state that it is possible for them to inhabit. However, pheasant densities are usually in direct relationship to the quality of the habitat and the amount of safe nesting cover.

Although pheasant land is disappearing, the excellent reproductive success of pheasants in recent years has given hunters good seasons. For instance, in 1967 the minimum estimated harvest was 1,015,000, probably one of the best we have ever had in the state. In 1968, 920,000 was the estimated minimum. The estimate for 1969 has not yet been made, but it looks as if it will be excellent. The main reason for these large harvests is better than average reproductive success. This resulted from (1) a higher density of nests in comparatively safe winter grainfields and a lower density in hayfields which are subjected to early mowing; (2) a higher hatching success in hayfields because of wet weather causing delayed mowing; (3) fewer hens killed or mowed nests in hayfields; and (4) a high degree of success from renesting hens.

The accompanying pheasant range map shows where the best, medium, and poor pheasant range is to be found in Pennsylvania. Of the total pheasant range of about 15.7 million acres, approximately 33 percent (slightly more than 5 million acres) is classified as primary range; 29 percent (4.5 million acres) is secondary pheasant habitat; and 38 percent (almost 6 million acres) is listed as tertiary pheasant range. As expected, the best range is in much of the southeast, parts of the southwest, and areas of the northeast portions of the state.

For management purposes, first-class range is defined as those areas

PENNSYLVANIA PHEASANT RANGE



● — Cities over 100,000 Population

U.S. GEOLOGICAL SURVEY

that support good populations of pheasants with no stocking needed. In this range type, the number of hens per square mile in the winter is 30 to 80, and sometimes even more. Second-class range is that habitat where fair populations of pheasants exist; it is thought that some stocking is needed here, but definite proof is lacking. In this class there are 10 to 29 hens per square mile in winter. In third-class pheasant range very few native birds exist, and put-and-take stocking is done to provide token ringneck shooting. Here, the number of hens per square mile in winter is 0 to 9.

In many instances different range types can be separated from one another by the farming pattern. Generally, this cropping pattern follows a progressive order from primary to secondary to tertiary, and sometimes in the reverse order. Some farming characteristics that have their greatest occurrence in primary range and decrease progressively in abundance through to tertiary range are winter grain, corn, total cropland, harvestable cropland, and total land area in farms. Farm habitats that have their

greatest abundance in tertiary range and become progressively less through to primary range are hay, idle land, pasture, and woodland. Thus, by recognizing these farmland-use differences in a farming section, one may frequently be able to distinguish which pheasant range type he is in just by observation.

Perhaps you now have a better idea about the type of pheasant country near you. In the management of the ring-necked pheasant it is important to know where the various range classes exist in the state. By knowing this, emphasis on pheasant management can be implemented where there is much hunting pressure for pheasants, where the bulk of the harvest occurs, and usually where there is extensive high-quality pheasant range. As noted previously, this primary range occupies areas of southeastern and southwestern Pennsylvania where urbanization is rapidly eliminating farmland from production of both food and wildlife. To ensure the vital ecological equilibrium needed for both humans and wildlife it is necessary that this farmland be preserved as farmland.

Record Keeping for Ammo Sales Modified

A new federal law modifies record-keeping requirements of the 1968 Gun Control Act which became effective a year ago.

Under the 1968 law extensive information was required for the purchase of all ammunition. Under the new federal legislation, recently signed by President Nixon, licensed dealers in ammunition no longer are "required to record the name, address, or other information about the purchaser of shot-gun ammunition, ammunition suitable for use only in rifles generally available in commerce, or component parts for the aforesaid types of ammunition."

Licensees are still required to keep records on sales of other types of ammunition, including ammunition presently interchangeable between rifles and handguns, such as 22-caliber rimfire ammunition.

Where Your Antlerless Deer License Money Goes

The sum of one dollar from the sale of every antlerless deer license in Pennsylvania is required by law to be used solely for cutting or otherwise removing overshadowing tree growth, to produce underbrush sprouts and saplings for deer food and cover.



THIS IS THE KIND OF CAMPING setup that everyone hopes for, but which is not always available. Rountree gives suggestions on where to find good ones.

Public or Private?

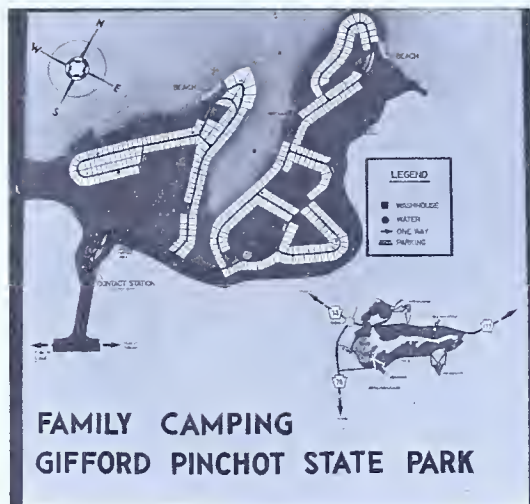
By Les Rountree

GET ANY TWO camping families together and naturally they're going to talk about camping . . . what else? After equipment is discussed for a few minutes the conversation invariably gets around to favorite places. A few particular spots are covered and then the real nitty gritty comes to the top. Which do you like best, the private or the public campgrounds? There will be some strong differences of opinion and then there will always be some middle-of-the-roaders. I suppose I'm a middle-of-the-roader. It's not just because I happen to be writing this column, but because I like a choice of facilities.

Without question, at least in my mind, the feature that sets the state-maintained areas apart from the public ones is location. Let's face it. Most of the very finest scenic attractions are owned by the state in one form or another. This is as it should be, since this fact guarantees good gen-

eral housekeeping requirements will be met and that all the public will have a fair shake at enjoying it. There's more to see at a public campground and frequently there's more to do, since many of the newer areas are located on or near a water impoundment. Boating, fishing and bathing facilities are big drawing cards for campers, of course.

The state-maintained areas are not quite so deluxe as the best private setups, but sometimes the lack of electricity and tiled baths with hot showers can be a blessing . . . especially when they don't work. Some of the newer state parks do feature campsites that offer fancy accommodations and flush toilets. They certainly are a blessing when you have a number of children in the group. However, I can't imagine anything more frustrating than setting up in a private campground and then discovering that nothing works. An ex-



POSTED MAP OF a camping area in York County makes it easy to find specific campsites, conveniences, etc. Unfortunately, not all campgrounds are as up-to-date as this one.

ample will illustrate what I mean. . . .

A few summers back my wife and I and our two children were touring northern Pennsylvania. We had advance reservations at a private campground. They had been arranged at least a month before. In addition, we had called the day before to make sure they were expecting us. We arrived at about one o'clock in the afternoon and were informed that not only did we not have a campsite but the management had no record of ever receiving our reservation request. I was about to blow my stack in earnest, when the camp manager agreed to fit us in between two other campers. I probably would have moved on, but there was a particular reason for wanting to stay overnight in this region so we elected to stick out the night. Of course this was a bad start, but the best, or rather the worst, was yet to come.

One cold water faucet served about 50 campsites and as I approached the rusty utility, I slipped and fell while trying to make my way through an obstacle course of assorted trash. The garbage can, which was next to the water faucet, had been full for at least two days. When, at last, I reached

the faucet—you guessed it—no water. Another camper came to my rescue and told me about a pump at the other end of the campground (about a quarter of a mile away) that did work. But I'd have to stop at site number 18 and borrow Frank's vise-grip pliers because the pump handle was broken and the pliers were the only tool that would hold the short stub. Water was finally obtained, thanks to Frank's pliers.

And then I visited the men's rest room. I will spare you the horrible details but a sign inside indicated that the facility was out of order. Indeed it was! And had been for quite some time. Ditto on the ladies' side, my wife told me. A hastily constructed outhouse served our section of the campground. No, that's a poor choice of words. It did not serve us, it was simply there. Firewood was available at \$2 for a 50-cent bundle and it turned out to be wet pine that wouldn't burn no matter what you did to it. We left first thing in the morning, and so did just about everyone else.

Most Are Good

To be fair about it, that's not a portrayal of the average private campground. Most of them are operated by people who care, and for the most part they do a good job of it. But there are a few hustlers around who advertise a whole lot more than they can possibly deliver. "Swimming available" sometimes means a scum-laden pond that is about ankle deep and smells like last year's limburger cheese. "Nature Trail" may turn out to be a 100-foot stroll through an adjoining cowpasture. The veteran camper soon learns to size up a sign or an advertisement but the beginner will get clipped at least once before he learns to pick and choose. Fortunately for all of us, the fly-by-night operators don't last long. For obvious reasons they don't get much repeat business.

One of the outstanding features of the state areas is the ruggedness and general good looks of the construction. The picnic tables are built to last and the sanitary facilities are adequate. The water faucets and pumps work and the garbage is picked up regularly. Of course, the group who argues for the private campground says, "So what, the state is using taxpayer money and they should build things to last." That's right, they should, but it's really a savings to build things right the first time since replacement is usually twice as costly.

Perhaps it's not completely fair to suggest that all state areas are not as deluxe as the best private ones. True, they don't have individual electrical outlets at each campsite, nor do they have permanent toilet hookups, but the newer camping areas are a long cry from being old-fashioned. The state camping area at Pinchot State Park in York County is a good example. The sanitary facilities are first class here, with plenty of sinks and other conveniences. The campsites are spaced beautifully, offering most campers a good view of the lake and plenty of room to move around tent or trailer. A hardtop road winding through the campsite eliminates the dust and mud problem. Bathing, boating and fishing are at everyone's doorstep, a handy consideration if you happen to be equipped with a pickup camper. Some of the recently constructed state campgrounds have clean-out tanks for chemical toilets, something that's not too common even at the private locations.

Private Areas for Pets

Pet owners, of course, prefer the private accommodations, since no animals are allowed at the state areas. I am a dog owner and I like to take my dog with me at times, but I really can't object to this regulation. Some people don't care to have their neighbor's dog sniffing in their stew pot. Even at private areas where pets are



IN SOME REGIONS, facilities such as these make life easier for the traveling camper.

allowed, they should be kept under control at all times. An all-night barker right next to your tent doesn't make for a happy camp trip either. Leave the noisy ones at a kennel.

In the cost department, the state areas are, on the whole, a bit cheaper than private sites. The prices range all the way from 50 cents to \$5 per night at the private camps, while the state grounds are \$1.25 or \$1.75 at the more modern campgrounds. In these days of ever-increasing prices, camping is still a good bargain, especially if the family is a large one.

For the hunter, and especially the deer hunter, many of the state areas are made to order. Some state camping is available in all of the topnotch deer counties and because of their rather remote locations on a large tract of state forest land there is no difficulty in finding a place to hunt. Many of the best state campgrounds are located in the northern half of the state and that's where most of the serious deer hunting is done. Turkey and small game hunters are also finding out that a hunting/camping trip is the best possible way to utilize a weekend. Since you can be hunting shortly after you step out of the tent or camper door, a lot of travel time is eliminated.

Some of the private campgrounds cater to the hunter too, by providing rifle ranges and in some cases trap and skeet shooting ranges. You usually pay a bit more for these frills, but to a lot of shooters it will be worth it. If the camper happens to live in a heavily populated area, the camping trip may offer his only opportunity to get in much shooting.

Just thinking out loud for a minute, it has seemed strange to me that some enterprising campground builder doesn't offer some regulated shooting for pheasants or quail at his camp setup. He would have to have considerable acreage to do this but I'm sure it would pay off. Some campgrounds do offer fee-fishing ponds and I'm positive that this is the deciding factor for many campers. Perhaps there is a fee hunting and camping combination establishment in Pennsylvania . . . and if there is I'll bet some reader tells me about it.

Reservations at the state areas are on a first come, first served basis.

While I agree that it must be done this way, it is a bit frustrating at times to have your heart set on a particular area and then find that it's all filled up. The well run private campground has the edge here, since you can usually phone or write ahead and make sure of your site. This is a great advantage if you are camping with a group or expect to tie up with some other camping family. There is a camping duration limit at state areas, as there must be, but on occasion the camper may want to prolong his stay. The private campground is the best bet for the long-term camper.

The conclusion has to be that private and public areas really serve different camping needs and the choice is yours to make. Your style of camping dictates where you'll stay and what you want to do. The experienced camper knows by trial and error which areas suit him best; the novice must experiment until he finds out exactly how much luxury he really wants.

Book Review . . .

Alvin Linden's "Restocking a Rifle"

A rifle stock can be a club, just a miserable handle that somehow lets you use the rifle. Or it can be an absolute work of art which in beauty of wood and perfection of line, fitting, shape, balance and finish ranks with the world's artistic masterpieces. That sounds exuberant, but it's no exaggeration. Of the millions of people who have lived in America, only a few dozen—literally—have brushed perfection in the craft of mating select walnut to blued steel. And of these, the late Alvin Linden was the recognized master. Just prior to World War II, Linden wrote three booklets on stock inletting, shaping and finishing, and included complete full size patterns for restocking the M1903 Springfield, M1917 Enfield and M70 Winchester. *Restocking a Rifle* is a re-issue of these as a hard cover book. Here, in incredible detail set down in a salty vernacular that reads as if it came off a tape recorder in the Wood Butcher's cluttered shop, is everything anyone has to know about custom stocking. That isn't to say everyone—or anyone—will become a top whittler just by reading, but the know-how is here and the rest is up to you. Everyone who has any feeling at all toward rifles should read this book, if only for the intimate picture it gives of what really constitutes a custom stock. The only weak point of the book itself is the fairly soft paper. It's easy on the eyes but does not permit the ultra-sharp photo reproduction deserved by the stocks shown. (*Restocking a Rifle*, by Alvin Linden. A Samworth book published by Staekpole, Cameron and Kelker Streets, Harrisburg, Pa., 1969. 139 pp., \$9.95.)

Home on the Range

By Keith C. Schuyler

Photos From the Author

IF YOU ASK an expert target archer what the key is to his success, the answer is always the same: "Practice." If the question is directed to a bow hunter who has fairly consistent success, the answer might be a bit more broad because of the hunting skills required in addition to ability with the bow. But if you pin the bow hunter down to the most important single factor responsible for high scores in the field, it will again be "Practice."

Of course, many other factors enter into the picture. Good tackle, knowledge of how and why a bow and arrow performs as it does, coordination, muscle development, mental conditioning. . . . We could go on and on. But these many other factors become important only to the archer who is willing to practice.

Lady Luck is the least likely participant to be found in a target tournament. She may help the bow hunter to some extent, but in any form of archery she will never be a proper substitute for *practice*.

Just to clear the air, it is once again emphasized that all archers have an obligation to organized archery. Nothing can take the place of the fellowship and the enjoyment that comes with working and shooting together with others of a like mind for the betterment of the sport. What follows here then is recommended as a means of additional fun and practice for those who do support organized archery. Or it is suggested as no more than a second-rate substitute for those who do not have an area club to join.

Six years ago suggestions were made here as to how a home range could be set up with limited facilities



BACKYARD ARCHERY ranges have a lot to recommend them. Here, target plates are being staked out at measured distances.

("Back Yard Bowmanship," April, 1964). In that setup, a series of painted stakes was recommended to establish the more common distances for shooting. It is still a practical idea, and we used it until last year when we came up with some improvements. One of the drawbacks of the wooden stakes is their limited durability, as many archery clubs have discovered. Another is in the fact that they must be moved for mowing of grass during the period from spring to early autumn. It is sometimes difficult to re-

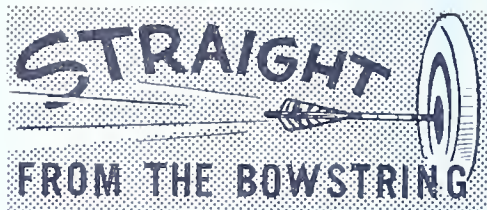
turn them to their proper positions after the grass is mowed.

In a search for something more practical, we came up with the markers illustrated with this column. Being metal, they are practically indestructible. Use of good metallic paint will prolong the visibility of posted distances, and, since they are flush with the ground, it is not necessary to move them for mowing.

Ken Laubach, who is handy with a welding torch, made the markers out of heavy grade metal with the visible surface roughly six inches square. To the center of the back was welded a metal rod about the thickness of a pencil and six inches in length. This protrudes at right angles to the flat surface of the square plate of metal. Its purpose, as shown, is to hold the marker in position on the lawn or any other earthen surface.

To provide the distance information on the markers, the upper surface was first sprayed with white paint made for metal application. Then, by use

AFTER METAL PLATES are painted white, a set of stencils, pencil, and a can of spray paint are all the equipment needed to finish the job.



of a set of numbered stencils, the distances at which each marker was to be used was applied by using black paint also suitable for metal surfaces. In spraying on the numbers, it is important that the stencil be held firmly to avoid getting feathery edges or having the paint smear under the stencil. Only one number can be applied at a time, and the marker should be set aside until the first number has dried thoroughly.

Space may limit the distances which can be shot, but markers can be provided accordingly. We are fortunate in that level space is available to set up a full NAA or FITA target range. Consequently, each of our markers received a double set of distances with the numbers separated and reversed in relation to each other for easy reading. They can be moved to lay out a range up to 100 yards with a 50-yard overshoot behind the targets.

Number Needed

Normally, however, the markers need only one distance since they will be permanently set in the ground, or at least until they need repainting. Number of markers needed will be dictated by the available space. Any combination of numbers can be used. We started at 10 yards, and then worked in five-yard intervals up to 40 yards. From 40 to 90 there are markers for each 10 yards.

Each distance was carefully measured. An old screwdriver was driven into the ground at the desired spot so that the peg on the marker could be slipped into the hole. This avoided any necessity to pound on the freshly painted surface of the marker to put it into position.

If the markers are properly placed, they can take almost any punishment. We use a small farm tractor to mow the grass, and the heavy machine has no effect on the markers. Grass grows right to the very edge of the markers.

In setting up any archery range, whether it is 10 yards in the basement or 100 yards outside, the primary emphasis should be on safety. If there isn't enough distance to permit a safe overshoot for careless arrows, provision should be made to stop any strays that miss the target. The farther the distance shot, the more consideration should be given to avoiding the risk of stray shafts.

Nasty Tendency

This is particularly important in town. Arrows have a nasty tendency to skip over hard surfaces for considerable distances. In such travels, they are apt to strike a sloping surface that will again send them into the air even after they have dropped to the ground. The harder the surface, the greater the distance they will travel. Extra bales of straw or excelsior can be placed behind the target to catch misses or pass-throughs.

Depending upon the space available, practically any of the target rounds can be shot simply by providing markers at the required distances. It is excellent practice for tournament shooting. Ideally, lights can be strung for night shooting during the longer evenings of spring and fall.

The question might arise as to the practicality of such a range for hunting practice. True, there really is no need for distance markers for such shooting. But it does provide an excellent way in which a bow hunter can learn to judge distances. By using life-sized targets of deer, for example, it is soon possible to learn at what extremes the individual bow will shoot without appreciable drop in trajectory. The markers can be used for reference rather than as shooting stations.

We are fortunate in having space for several target butts. By autumn, at least one of them has been rather badly pounded to the extent that it will no longer hold target arrows well. This one is then used to practice with broadheads before the hunting season begins. Although hunting weight target heads and shafts will give a



THIS 15-YARD PLATE doubles for the 80-yarder, simply by reversing, if that much additional shooting space is available. This saves the work entailed in making extra plates.

close simulation to what one might expect from the regular hunting shaft and head, there is no real substitute for shooting the real thing. If any of your hunting arrows have a tendency to plane or wobble in flight, there is an opportunity to correct the problem before taking to the hunting range. The broadheads can be freed by hand by pushing or drawing them through the beat-up target (if they don't fly through) without damaging the fletching.

And, of course, the use of target shafts and heads in hunting weights and fletching does provide excellent practice for the long haul. We shoot them at all angles and under all hunting conditions that can be duplicated. There are enough trees and bushes to provide a fair simulation.



TO GET SHARP NUMERALS, stencil must be held firmly while applying paint. A little practice beforehand makes the job simple.

Since the usual field range is somewhat remote to the average community because of the 20 acres or so needed to lay out a full 28-target course, a backyard setup is handy for the fellow who hasn't time to get to the regulation club range. It is ideal for the serious target shooter who knows that he must practice almost daily if he hopes to meet the tough competition encountered today. Those who wish to compete in the state or national events simply must keep in shape.

One of the best examples of the need for practice was illustrated by Ray Rogers, personable target champion from Oklahoma. Although Ray smashed a number of existing records to win the World FITA Tournament in 1967 at Holland, he was out of shooting shape when he approached the 1969 event at Valley Forge. He managed only seventh place in the U.S.-sponsored 25th target shoot of the international archery organization. He admitted that he was out of prac-

tice after spending considerable time at golf during the summer. But the World Target Tournament gave him all the practice he needed. A few days later he came on to take the National Archery Association championship at the same location.

Only a handful of archers even consider going after the big ones when the number is compared to the many thousands who just enjoy competitive shooting. And even these sometimes competitors are but another bigger handful when compared to the total who enjoy archery primarily as a hunting sport.

Answer for All

The range at home, depending upon its limitations, provides a handy answer for *all* who shoot the bow—if we all are convinced that practice is important.

Above and beyond all of this, however, is the opportunity to just enjoy shooting. The top talent in any sport helps to keep the press alert to its activities and in this way provides service to all. The experts compel the manufacturers to turn out new and better tackle. They have their special place. Still, it must be accepted that the average participant in any such activity is the real backbone that supports the whole body.

Consequently, the opportunity to shoot informally within the privacy of one's own property line has its special appeal. From these hedge enclosed lawns, vacant lots and driveways, can come the occasional prize winner. But for the most part they are just people who enjoy shooting the bow for its own sake or to get sharpened up for the hunting season.

Certainly one of the primary advantages of a backyard target layout is in the very informality it engenders. Although it is easily possible to establish the requirements for some or all of the regulation target shoots, there is no compulsion to do so as at a regular club range. You can invent

your own games or you can just shoot away.

Depending upon how much area can be utilized in front of your target, or targets, some simulation of a field course is possible. Temporary stakes can be placed at various distances encountered on a regular range. If more than one target butt is available so that different size faces can be used, quite a number of field shots can be established. In fact, it is possible to use more than one field face on the usual target butt, and the required face can be shot for the distance normally encountered for the face being used.

Obviously, the number of shooters must be limited, both for safety's sake and the number of arrows to be shot in any individual target. There is no easier way to ruin good arrows than

by trying to jam too many into one target. Danger to shafts is increased if more than one angle of shot is being made at the same target.

One of the added advantages of using markers described here is in the fact that they do not inhibit the use of shooting space for any other activity when shooting is not in progress. Too, there is no danger of having anyone bark their shins on a marker or of someone tripping over or falling on a stake in the dark.

If you can handle a welding torch and a paint brush or a spray can, or have a friend who is handy, you have the means of converting any space around the house into a range that will only be obvious when it is in use. It is guaranteed to improve your scores at target and in the hunting field.

Archers Exceed '68 Harvest

Archers reported to the Pennsylvania Game Commission that they took 2364 whitetails during the regular archery deer season, September 27-October 31. Of these, 559 were taken by nonresidents.

During the regular archery deer season in 1968, bowmen reported taking 2309 whitetails. Of that number, 436 were taken by nonresidents.

Underground Owl

The burrowing owl is the only member of its clan that lives underground. It usually moves into subterranean homes built by prairie dogs, badgers, skunks, foxes and other animals.

National Wildlife Week, March 15-21

Seen any wildlife lately? That's the question being asked by the National Wildlife Federation. The answer is important for many reasons. One is that wildlife is a living yardstick. Numbers of healthy animals can be found only in unspoiled regions, areas that have a lot of the things that people want and need. A deer means sheltering woods nearby, food and water, peace and quiet. A songbird indicates a decent nesting spot and some insects to eat which haven't been killed off by poison sprays. Wildlife can't survive in a world that is polluted. There are few animals where green plants have disappeared and the water is filthy and the skies are gray with smoke. Across America today there are many places no wildlife is seen—except possibly a few sewer rats or soot-covered pigeons. No, wildlife can't survive in such an environment. And neither can we.



The Gun for Clays

By Don Lewis

Photos by Helen Lewis

COLUMNIST DON LEWIS, blessed with a huge "backyard," has plenty of opportunity for claybird practice in his spare time.

"**I**LL BETCHA that's Bill again," my friend Joe said as he started for the jangling phone. "He's been pestering me for over a month to join the trap team. I've done everything but flatly refuse. Actually, I hate to turn him down."

I leafed through a hunting magazine and sipped at a cup of hot coffee while Bill and Joe argued for ten minutes. I didn't hear Joe say so, but I could read between the lines that he apparently felt he couldn't spare the money to get a special trap gun. Bill must have presented a pretty tough case because Joe finally gave

in and agreed to join the trap team.

"What am I going to do now?" he asked dejectedly when he returned to the kitchen. "I really put my foot in it. Bad as I want to shoot on the team, I don't know how I'll ever come up with two or three hundred dollars to get a trap gun. Too bad you can't use a regular shotgun."

"Don't you have your late uncle's Model 12 Winchester with the long full choke barrel?"

"Yeah, but that's no trap gun. I'm not figuring on buying a silver inlaid job, but I'm sure not willing to walk up to the firing line carrying that Long Tom."

"What kind of a shotgun do you think should be used if the Model 12 isn't good enough?"

"I'm not certain. I do know that it takes a special type of shotgun."

"I won't argue that point with you too much, but there's no reason in the world why you can't use the Model 12 for the type of shooting you'll be doing. A custom trap job is a must for the man or woman who intends to compete on a serious basis, as it does have a few features not found in the regular hunting shotgun, but your Model 12 already meets most of the requirements."

"Come off that stuff," Joe said abruptly. That gun is strictly for hunting. Do you want me to be laughed off the team?"

"You're not listening. The only major thing your gun lacks is a good stock for trap. It's a 12-gauge. It has a long full choke barrel, and it's pretty heavy. What more do you need? The way it patterned at 40 yards last year at my place is ample evidence that it will break clays consistently if you do your part."

Joe and I never did settle the argument. He refused to believe that a shotgun similar to his Model 12 could be used on the trap field. He felt I was just offering him a way to get out of buying a new shotgun. The truth of it is, Joe could have used his Model 12 with good success.

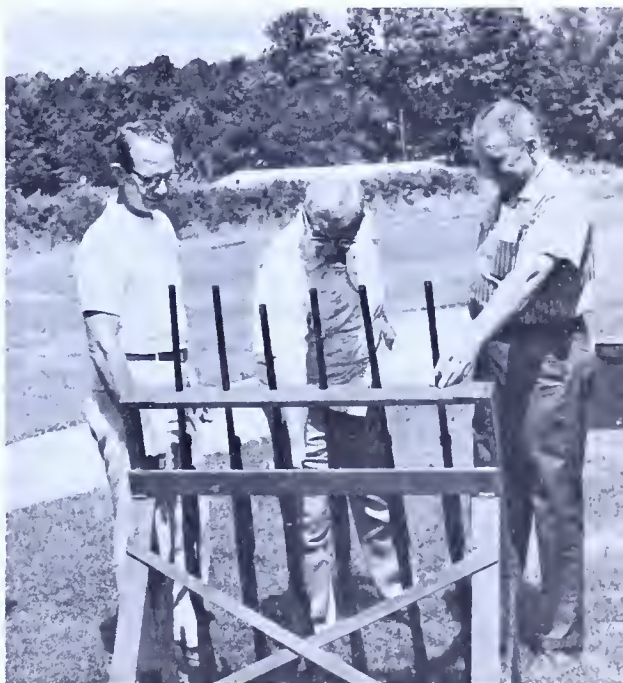
Hard to Pick Best

Picking the right shotgun for trap is no easier than picking the right outfit for chucks. No matter whom you meet, you'll get a different theory. Most shooters advocate strongly what suits them. For years, I've been an advocate of the 220 Swift as a chuck rifle. I honestly believe it's a great outfit. However, I'll admit that I own a number of other chuck rifles, and I hunt with them all. I suggested in this column sometime ago not to go overboard on the first gun you buy. This holds true with the trap gun. Time and experience may make you change your mind. If you check with some trapshooters, you'll see that each

has tried a number of shotguns before settling for the one they are using. It's a good bet if something new comes along, many will give it a try.

You can use almost any type of gun to break the flying clay targets, but there are some requisites in a trap gun that shouldn't be overlooked if you intend to take up the sport fairly seriously. During the course of our conversation, I told Joe what the important ingredients were—weight, long full choke barrel, a straight stock, and preferably a 12-gauge. A lot of shooters will disagree with the 12-gauge theory, but I'm going to stick to my philosophy that you have a better chance of making a clean kill or breaking the small clay target consistently with a dense pattern. The large shot charge of the 12 offers just that. Proof of it is as plain as the nose on your face if you check shotguns of various gauges on a patterning board.

The weight of a gun is very important to both the hunter and the trapshooter. Most hunters want a light,



VISITORS AT Ross Leffler School of Conservation choose shotguns for a round of trap, assisted by Hunter Safety Coordinator John Behel, right.



BLAIR HOOKS finds long-barreled, ventilated-rib Browning autoloader works fine at trap shooting as well as for far-off pheasants.

quick-swinging shotgun. This is dandy for quail and grouse shots. Also, a light shotgun doesn't take the joy out of carrying it. But the trapshooter isn't fighting brush, briars, and steep hills. He needs more weight simply to keep his swing smooth and even. The men who make trapshooting a profession insist that swing and follow through are paramount factors in good trapshooting. The pitfall in shooting at moving game is stopping the shotgun when ready to fire. It's so easily done that most shooters aren't aware of doing it. I had a clear picture of this common fault last rabbit season. I had a wide open shot at a speeding bunny running to my right. I swung in from behind, but when the gun cleared the rabbit's nose, I stopped. My shot charge tore up the fresh snow two feet behind the speeding rabbit. A heavier gun would have been more difficult to stop quickly. So a six-pound shotgun is the ticket for an all-day grouse hunt, but on the trap field a couple of pounds more can improve the score.

Notice, I recommended a full choke gun with a long barrel. I could add here that a ventilated rib on a trap gun is not just for looks; I'll explain later. The only thing a trap gun is

required to do is to break the clay target *every* time if the shooter does his part. This can be accomplished only with a gun that delivers a tight pattern at 30 to 40 yards. In 16-yard trapshooting, the clays are normally broken between these two distances. Considering the small area of a clay target, it's no problem to see why a tight pattern is a must. I suggest the straight full choke barrel and not one that has a choke regulating device on it. These devices are convenient, but unless installed absolutely true with the bore, you'll have little success. I shot a bolt action shotgun with one of these regulators on, and at 40 yards, the charge was to the right and two feet low.

The long barrel does nothing more than offer the shooter a longer sighting plane. I think the long barrel is easier to swing, and that brings us right back to the heart of good trapshooting. As for the ventilated rib, it also helps with the sighting, and it cuts down on the heat waves that flow up from the barrel after a few rounds have been fired.

Grips With Stock

We now come to grips with the straight stock. I mentioned sometime ago that a bird hunter might desire less drop in the stock than the rabbit hunter, since he is shooting a rising target. This statement drew some questions on how drop in a shotgun stock could help or hinder. It's simple. In order to hit a rising target and keep it in view when shooting, the shotgun must throw the charge *high*. Although the bird hunter is not always confronted with a rising target, the trapshooter is. The straight stock acts on the same principle as an adjustable rear sight on a rifle. The straight stock holds the face up, and the shooter is looking *down* on the front sight. Consequently, the barrel is tilted upward slightly throwing the load of shot above the line of sight.

I've always insisted that the shotgun must fit the shooter to get good results. The hunter has no time to overcome any deficiencies in his shotgun. A rifleman may be able to shoot well with a too-long stock, but the grouse hunter can't. The fit of a trap gun is just as important, and, if you intend to buy a trap gun, don't overlook the fit regardless of the bargain you may be getting.

Last but certainly not the least is the ability of the trap gun to withstand punishment year after year. I would guess the average hunter fires his shotgun no more than 300 times a season—probably far less. This may sound like a lot, but the trapshooter will burn that much ammo in a week. This does require a well-built gun, and the custom trap gun is designed for the punishment it will receive. Fortunately, most shotguns bought over the counter are well made, and you can expect a good many years of trouble-free shooting from the present-day hunting shotgun.

Perhaps when I was discussing the weight of the shotgun, I should have pointed out that another advantage of using a heavier gun for trap is that it reduces the recoil. Firing a hundred rounds in an evening can wear the shooter down if recoil is severe. It not only punishes the body, but recoil hampers the shooter's concentration. A recoil pad certainly is an advantage to the trapshooter. Insist on a high quality pad properly installed to your fit by a competent stockmaker.

I have refrained from committing myself on the type of shotgun you should use for trap. Would it be pump, over-under, autoloader, or plain single shot? I'm going to leave that up to you with just several reminders. Of all the shotguns that can be used for trap, the autoloader is probably the least desirable. It's not that it won't do the trick; it's simply the way it's built. Take ejection. It's quick, and the fellow next to you may get annoyed after you bounce two or three empties off his head. This is

MEMBERS OF Pennsylvania Outdoor Writers Association wait for start of a round of trap. Note that actions on all guns are open.



bad enough, but some clubs have a rule that once an empty cage hits the ground, it belongs to the club. The handloader suffers here. Sure, you can build special cages or remove the extractor or ejector, but the cage to catch the empty is unsightly and removing the ejector eliminates doing any shooting at doubles. And if you use the gun for hunting, it might be embarrassing to discover the ejector is back home.

All of us dream of owning a really fine trap gun. I recently did some work on a trap gun that cost more than a thousand dollars. It was a beautiful over-under. After I handled it for a few minutes, I wished I hadn't seen it, but then I realized that I could enjoy breaking clays without owning a gun of that quality. I'll admit that the specially built trap

gun will break more clays over the years than a run-of-mill shotgun, but why worry about something few of us will ever own? The best bet is use what you have and keep an eye peeled for something a little more desirable. I shot my first chuck over 35 years ago. I was using a beat-up Winchester single shot 22. Come to think of it, I got as much pleasure out of that shot as some I've made over the long ranges with fancy, custom built varmint rifles.

When you put everything together, it adds up to a lot of pleasure breaking the clay targets, and it will surely improve all your shotgunning in the hunting season. Get in there and shoot, use whatever you have. It'll be a long, long time before you can start blaming the shotgun for all the misses you make. . . .

But What Do They Do ?

Wild geese have lived longer than three decades in captivity. Only vultures and parrots boast a longer life expectancy.

Looking Backward . . .

"When the first white settlers came to the Buffalo valley in Union County, they found a vast blue grass pasture-land, approximately 25 miles long extending from Derrstown, now called Lewisburg, on the Susquehanna to the Tight End at Weikert, and with a maximum width of six or seven miles, dotted with superb primeval forest type white oaks, black oaks, and red oaks, the home of myriads of bison, wapitis and deer and overrun with flocks of wild turkeys.

"Like a dweller in Llyswen or Ant Hills burns off his lawn when the snow goes off, every spring, and gets a new grass start as a result, the wily redskins fired the Buffalo valley in spring when the wind was right to carry it east or west. In this way the once dense hardwood forest became decimated, through the giant trees which survived retained the forest type, tall, columnar stems, small branches and meager tops.

"Under this sparse growth of primitive oaks, the herbage came lush and rich and the bison, elks and deer enjoyed it until late into the autumn when the Indians had their week of slaughter, tachquoakallauwin [fall hunting]."

H. W. Shoemaker, "This Morning's Comment," Altoona Tribune, March 5, 1941.

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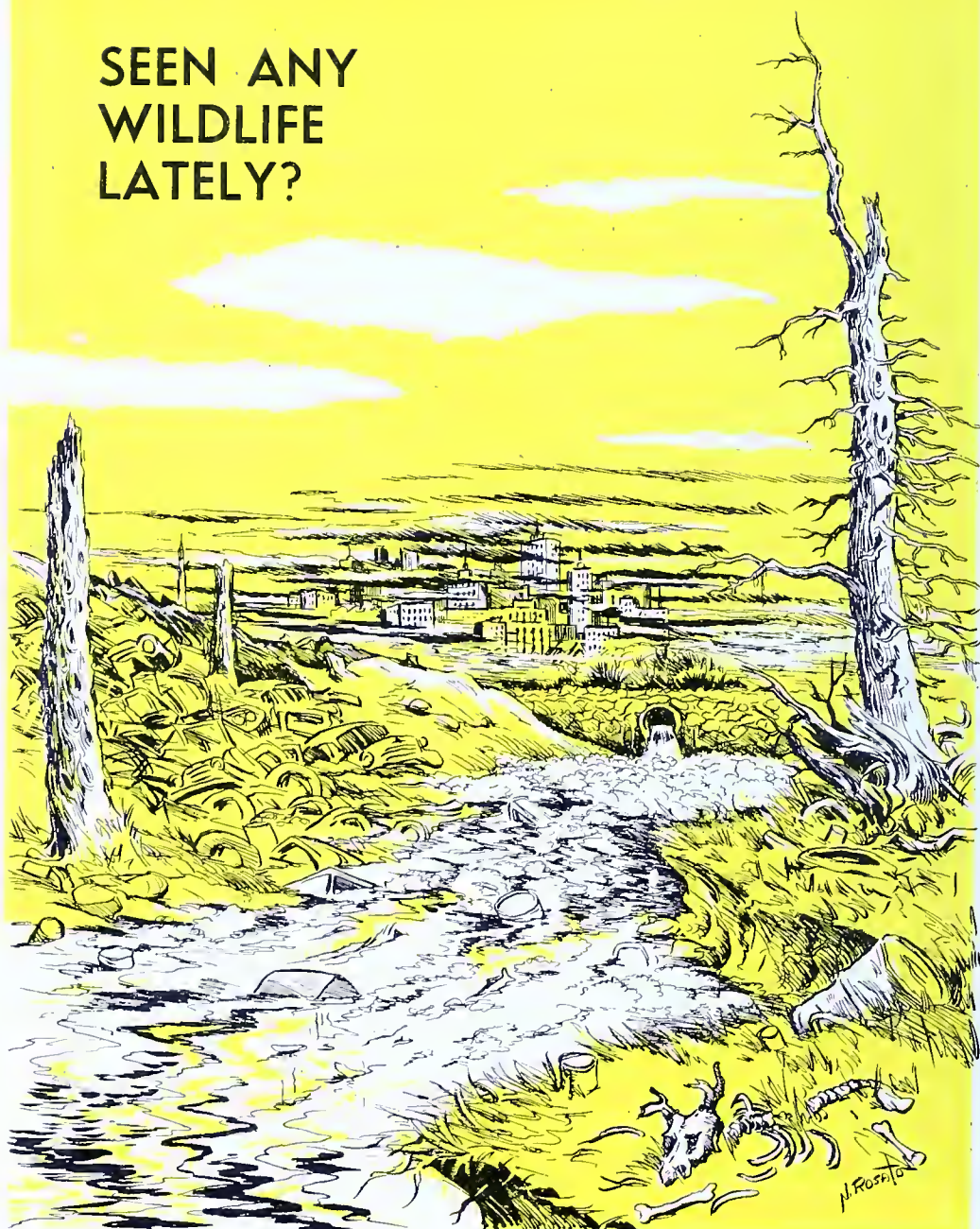
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IN THIS ISSUE

FEATURES

	Page
Nothin' but Head Shots	2
By H. A. O'Neil	
Rickory Run Boulder Field	8
By Ken Calnon	
The Web	11
By Albert G. Shimmel	
The Flintlock Pennsylvania Pistol	15
By Jim Hayes	
A Sad, Sad Tail	20
By Day C. Yeager	
Spring Migration	27
By Eugene R. Slatick	
Moles and Bats	45
By Carsten Ahrens	

NEWS

Field Notes	34
Conservation News	39
Hunter Safety Education	43
By John C. Behel	

COLUMNS

Stay Dry (Camping)	48
By Les Rountree	
Crossbow at the Crossroad (Archery)	53
By Keith C. Schuyler	
Elementary Ballistics (Guns)	59
By Don Lewis	

COVER PAINTING BY JIM LANDENBERGER

The pintail, *Anas acuta*, is usually in the vanguard of the spring migration of waterfowl, its long slim figure pointing ever northward toward distant, still-frozen, shores. Pintails extend their migration as far as the Arctic coast. They occupy the widest breeding range of any American duck. Called by Herbert Job "the greyhound among waterfowl" the pintail is graceful, neat and trim. The drake's call is a mellow whistle, the female's a muffled quack. A hardy bird, the pintail is shy in the wild state but domesticates easily.

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Above and Beyond . . .

THE FOLLOWING letter was received in the Northwest Field Division Office of the Game Commission, in Franklin, this past December.

December 10, 1969

Farm-Game Cooperative:—

Dear Sirs:

We have been farm game cooperators for twenty-one years, putting up with cut fences, stolen trees, shot-peppered barn roof, but the final act of infringement was a shot dog 150 yards from the tenant's residence, well within the property boundaries of our land.

Therefore it is with regret that we must remove our land from the farm game cooperative and will forthwith post "No hunting or trespassing without express permission of the owners." This will be done before the next hunting and fishing season.

Regretfully,

(Signed) Mr. and Mrs. Wm. Sinn
RD 1, Union City, Pa. 16438

Such letters are not common, yet neither are they rare. They always cause considerable reaction. Anger and frustration are the normal emotions. The anger is not directed at the landowner, but rather at the senseless stupidity of the hunters whose pointless, discourteous, even criminal acts, have infringed on the rights of persons who have gone out of their way to cooperate with the Game Commission and therefore with the hunters themselves. The frustration naturally results when Commission employes see the programs they have spent years in building up—good relations with landowners which have resulted in large acreages open to hunters—destroyed for no good reason at all.

Can any hunter, any person reading this, blame Mr. and Mrs. Sinn for closing their land to hunting after enduring such actions? I, for one, certainly don't think so. And if such actions continue, a lot of land now open to hunting will be closed—land hunters cannot afford to lose. It's true that the Game Commission owns over one million acres of State Game Lands which are open to hunting, but it's also true that currently there are over four million acres available to hunters in the Farm-Game and Safety Zone programs, and these are vulnerable. The Game Commission for years has said that the Game Law violator is a thief, as he takes game he's not entitled to. It's obvious that the thoughtless hunter whose actions make land unavailable is also stealing, for he's taking hunting grounds away from everyone else. Such persons should be reported when seen. To do so isn't unsportsmanlike; it's simply cooperating with the lawful hunters . . . and ultimately it's self-preservation. If you want a place to hunt, you've got to help protect it.

Oh—one other thing. I just phoned Mr. Sinn and he told me that after talking with District Game Protector E. D. Simpson he had decided to keep his land in the Farm-Game program one more season to see how it goes. This is certainly going further than we, as hunters, have any right to expect. I hope that a year from now we can tell you this land is still open. Whether it is or not depends on us—on you and me. It's something to think about. Seriously.—*Bob Bell*



CHUCK
RIPPER

Nothin' but Head Shots

By H. A. O'Neil

FROM THE CORNER of my eye I caught the movement as my companion, Bill Gray, raised his binoculars and trained them on the shadowy trees several hundred yards distant.

"Still too dark," he said after a moment, and I nodded.

With daylight, the knoll we were on would command a wide sloping meadow dropping down to the Susquehanna River, but now we could make out nothing definite. So we waited.

I scrooched around until the dew-wet grass dried under me and wished for a sweater. In a few hours it would be scorching, but now it was chilly and I sat with my hands under armpits, staring into the dimness, listening. Not a sound broke the stillness, not a breath of air stirred. It seemed that every living thing was waiting for the sun, listening for it.

And then it came. The slim red edge of it showed over the time-worn hills on the far side of the river, making a rosy light that touched the curls of mist rising off the glass-smooth surface of the water and changed the shapeless forms in the meadow into clear-cut outlines.

And with it came sound. Nothing harsh or blatant. Just the whisper of wind through the trees and the soft whine of car tires on the macadam road some distance behind us and the slow, off-beat rhythm of a distant cow bell.

Bill raised the binoculars again and searched the trees bordering the river. "I hear a crow down there," he said.

"We're after chucks today," I answered, smiling to myself as I anticipated his reply.

"I'd rather bust a crow than a chuck anytime," he said, continuing his search, and I chuckled. While I waited, I checked the chamber of my

rifle to be sure it was empty. It was a nice outfit. A heavy-barreled 222 built on a Sako action, with a high-combed stock and a 12X Weaver scope on the top deck. I'd finished building it recently. A batch of favorite handloads completed it: 50-grain Sierra spitzer bullets, 19½ grains of Dupont 4198 and 116 Winchester primers in Winchester brass. This is an accurate load in my gun, over 50 consecutive 5-shot groups averaging well under a minute-of-angle from the bench, shooting being done at 100 and 200 yards.

Crow on a Snag

"I see that crow," Bill said quietly. "He's on that dead snag just to the left of the big willow." He handed the binoculars to me and picked up his rifle, moving a few feet so he could rest the back of his hand alongside the large walnut tree near us. "How far do you figure it?" he asked, running a load into the chamber. He was using a heavy 22-250 with a 10X Unertl varmint scope.

I studied the crow through the glasses, watching as he swelled up in the forward half and almost came unbalanced as he *cawed* several times. The sound drifted up plainly in the morning stillness. "It's well over 200," I said finally. "Close to 250."

"That's about what I figured," Bill said, and squirmed into position. For a long moment there was absolute silence. Then the sharp crack of the high-velocity load lashed across the meadow and rolled among the hills behind us. Even as my ears registered the sound I saw the crow explode and drop to the ground, several feathers drifting slowly behind.

I lowered the glasses and looked at Bill. "Hit him," he grunted, still peering through the scope.

"Yeah," I said, and turned the binoc-



WE SAT MOTIONLESS FOR SOME TIME, glassing the meadow and fencerow constantly, waiting for the first chuck to make his appearance.

ulars toward the farmhouse just visible in the opposite direction. "The farmer will be here in about ten seconds with the pitchfork. That bloomin' cannon is loud enough to wake the dead."

"No, he won't," Bill laughed. "I know this fellow well, and I talked with him yesterday. He knew we'd be here this morning. Besides, you've got no room to talk about loud rifles. What about your 22-250? And that 6mm job? They're not air rifles, you know."

"Afternoon" Guns

"Yes," I said, "but notice one thing. Those rifles are home in the cabinet now. They're my *afternoon* guns. When I go shooting so early in the morning I use something small, so I won't disturb anyone lucky enough to be able to sleep late. You gotta be considerate, fella!"

Bill laughed. "Boy, that's something," he said. "The only reason you're using that pipsqueak is you're too lazy to carry those heavyweights anymore! Do you think you can bust

a chuck with that little bitty thing?"

"I don't know," I grinned, and then asked, "I wonder how many Jerry has now? He had 94 when I talked to him last week." I raised the glasses and studied the opposite fencerow for a few seconds before asking, "What caliber is he using this summer?" My voice was studiously innocent, but the question brought a sarcastic chuckle from Bill.

"Well, I admit he kills 'em with a 222," he said, "but *he* can shoot."

"That might account for it."

We sat motionless for some time, glassing the meadow and fencerow constantly, waiting for the first chuck to make his appearance. Suddenly he was there. We didn't see where he came from. One moment the meadow was empty, the next a medium-size chuck was feeding there. Bill motioned toward him. "It's your shot," he said. "Think you can hit it?"

"Pretty close," I said. "Can't be more than 140."

"Shoot it in the head," he said.

"Nothin' but head shots today." He was watching through the glasses as I slid a cartridge into the chamber and moved into a solid position. The chuck sat up and looked around when I closed the bolt; he may have heard the sound although he didn't locate us. I took several breaths to steady myself, then placed the cross hairs just under his ear and squeezed the trigger. The rifle snapped sharply and the chuck slammed into the ground.

I watched it through the scope for some time. Except for a few spasmodic flips of the tail there was no movement. It was an instant kill, the kind the varmint shooter takes pride in. We like to hit what we shoot at, of course, but if we miss a shot it is of no great consequence. However, to wound an animal and have it get away to die slowly is something no sportsman wants to do. That's one of the reasons we choose rifles, scopes and ammunition which are capable of delivering shot after shot to the exact point we want to hit. When good equipment of known performance is used, most misses can be laid directly on the shooter. Usually it is a miscalculation of range or wind which causes the most trouble in varmint shooting.

The sun rose higher while we sat there, its warmth dissipating the earlier chill until it was forgotten. The hum of insects was the loudest sound in the air. I began to feel sleepy, although I'd been up only a few hours, and was looking for a soft place to lie down when Bill said, "I see another one, fella." I followed his gaze and located another chuck peering from his hole beneath a stump in the fence-row. Just the head was visible in the shadow; without the binoculars or scope he would have been invisible.

This one was farther than the first one had been. Almost twice as far. "It seems as if you're getting all the long shots," I said. "You'll have to shoot it in the head, too, unless you want to wait until it comes out."

"Guess I might as well try it there," he said. "If I hit, that settles it; if I

miss, there'll be another chance some day." He loaded his rifle and moved into a prone position, steadying his left hand alongside the tree. The gun cracked and the chuck disappeared. Bill was using a 55-grain spitzer bullet loaded to about 3700 feet-per-second and it doesn't take long for it to get where it's going.

"What do you think?" he asked.

"I'm not sure," I said. "Have to go see. I feel like going for a little walk anyway, so I'll go over that way then up over the hill, okay?"

"Don't forget we're supposed to meet Jerry and Ted about ten-thirty," he said.

Accurate Outfits

I picked up my rifle and moved across the meadow, stopping to examine the chuck I had shot. The bullet had entered between the eye and ear. Continuing across I found the hole where Bill had shot at the chuck. I could see fur in the hole. I reached in—somewhat hesitantly—and pulled out the chuck. The bullet had hit just under the chin, going through to smash the spinal cord for another perfect kill. This chuck was almost 250 yards from the gun and offered only a few square inches of vital area to shoot at. The fact that the shot was made shows the accuracy potential of a first-class rifle and cartridge such as the 22-250 Remington, 225 Winchester or 220 Swift. Also the skill of the fellow squeezing the trigger.

I cradled my rifle and moved up over the crown of the hill, walking slowly and enjoying the feel of the earth under my boots and the wind on my face. There is an enchantment about an early morning afield that is unique, different than any other time of day. A freshness that can almost be tasted, a promise that the day is young and there is no need to hurry.

It grew warmer and I stopped in the shade of a tree to look out over a field of stubble. Several patches of weeds marked chuck holes, and I watched them awhile. A brown bulge



I STUDIED THE CROW through the glasses . . . for a long moment there was absolute silence. Then came the sharp crack of the high velocity load.

looked suspicious and I studied it through the binoculars from the standing position as it wasn't visible otherwise. Finally it moved a little and I saw that it was a chuck. The cross hairs settled on it and I squeezed off a shot. It disappeared and I started to walk toward it. Suddenly the head popped up again and I threw up the rifle and fired once more. Again it went down with startling abruptness. This hold looked especially good and I pocketed the empty case for reloading and reached for another cartridge, thinking I had made a clean kill. Suddenly a chuck ran out of the thick grass around the hole I had been watching and dove into another hole a few yards distant. I watched it go with a foolish look on my face and an empty rifle in my hands.

I muttered some nasty comments about my shooting ability—or lack of it—and walked up to see where the bullets had hit. When I got there I found two chucks clogging the hole, each shot through the head. There had been three chucks altogether, instead of the one I expected, and I had hit two of them. This was an auspicious beginning for the rifle. Three shots and three dead chucks. All the ranges had been short, though, the

latter two being at about 70 yards.

It was almost time to meet Jerry and Ted and I started back to find Bill. On the way I happened to spot a crow in a thick bushy tree against a hillside, and dropped him at about 120 yards. This is much closer than crows usually allow you to approach, especially with a gun in evidence.

I heard someone shoot as I walked back and found the three of them examining a chuck that Ted had taken with his 22-250. We filled each other in on the morning's shooting then put the rifles and equipment in Jerry's station wagon and headed for the area he wanted to hunt.

First-Name Basis

I don't know how many chucks there are within the east-central Pennsylvania region we hunt, but I've reached the conclusion that Jerry knows each and every one by his first name. His method of finding them is simple—in theory, anyway. Just spend three or four evenings out of every week from early spring until fall cruising the back roads, glassing the fence-rows and fields, and remembering every chuck location he finds. Then he asks landowners for permission to hunt. Through the years we've gotten to know many of these people, and since they've learned we are careful about our shooting, many let us hunt. Jerry uses either a 222 Remington M722, restocked with a beautiful piece ofrotch walnut and wearing a 10X Unertl scope, or an M70 Winchester 257, also restocked, with the same type scope. He chooses his rifle according to the distance to be shot over or the wind conditions, and these two fill the ticket for him.

We turned off the macadam road onto a dirt lane that overlooked a pretty valley, parked the car and walked to a place where we could see a small group of trees growing along a creek which bisected the valley. Jerry said, "There are half a dozen fresh holes among those trees. We'll see one soon." He raised his binoculars

to watch and I let my gaze run over the terrain. It was good chuck territory. Sloping ground contours to provide good drainage, water nearby and plenty of forage. It was also ideal from the chuck hunter's standpoint. Shots could be taken at ranges up to 400 yards with a safe backstop. From our position we were looking downhill with the sun at our backs.

"I see one," Jerry said shortly. "No, there are two of them. The one's in the clover, just in line with that crooked fence post, and the other one is about 20 yards to the right. See 'em?" He laid down the binoculars and picked up his rifle.

"You take the other one, Ted," Bill said, and we watched while they got into position and waited for a chance. Jerry's chuck was down in the clover, feeding, but the other one was in view. When they both came into sight at once Bill whispered, "Take 'em," but Jerry's 222 drowned him out. At the shot the other chuck froze for a second, and Ted's 22-250 rolled him.

It was almost 240 steps to the chucks, and I said, "You still think this cartridge is too small?" when we examined the damage Jerry's gun had done.

"Oh, I know Jerry's gun will handle them," he returned. "I'm just not sure about yours!"

"Well, we'll let you find out soon," I said. The next chuck was located in a small piece of bottomland also bordered by a creek. "How far do you figure that one?" I asked. "Far enough to satisfy you?" It looked about 250 yards to me.

A 14-Pounder

"Yes, that'll do," Bill said, so I handed him my gun and said, "Well, shoot it then. Hold about three inches above the point you want to hit." He laughed and took the rifle. A moment later it cracked and the chuck collapsed. I went down and got it. The bullet had entered just at the base of the ear. It was a large male, almost charcoal black in color with long sil-



JUST THE CHUCK'S head was visible in the shadows. Without the binoculars or scope he would have been invisible. This one was almost twice as far as the first chuck had been. . . .

ver-topped hairs. It weighed just 14 pounds on an accurate scale. This was the largest chuck we'd seen killed all summer. The average adult chuck in Pennsylvania weighs about 10 pounds.

A short time later I collected another chuck weighing 12½ pounds, also with a head shot, at 160 yards. "Well, I'm convinced," Bill said after these two shots. "I guess that rifle of yours will clobber chucks after all!"

Our time was running out and we were getting ready to head for home when Jerry pointed across the field to a chuck on the front porch of his den, alongside a post in a barbed wire fence. "I'm going to try that fellow before we quit," he said. We watched through the glasses as he eased off the shot then went over to pick up the chuck, stepping off the distance as he went. When he returned there was a delighted grin on his face. "Just one and a half football fields away," he said. "And look where I hit him. . . ."

He pointed at the chuck's head. The bullet had gone directly into the ear orifice from the side, not touching the outer ear at all. "Right smack in the middle of the X-ring," Ted said. "Guess that's the perfect shot to wind up the day."

We went home.



A Geological Wonder

Hickory Run Boulder Field

By Ken Calnon

HIGH IN A valley flat in the mountains of northeastern Pennsylvania is one of nature's unusual and interesting phenomena, Hickory Run Boulder Field. Boulder Field is located in Hickory Run State Park, RD 1, White Haven.

As I stood at the edge of this huge mass of boulders, my first thought was—how did all of this take place? Several possibilities have been examined but only one seems to explain the formation.

Approximately 50,000 years ago this area of northeastern Pennsylvania was covered by the great Wisconsin ice



sheet. Although the ice sheet stopped several miles north of the valley flat, it is responsible for Boulder Field being in its present location.

When the ice sheet was nearby it caused the temperature to drop to an extremely low degree. This froze the subsoil to great depths, establishing a permafrost region such as we have in our Arctic areas today. The permafrost prevented moisture from entering the subsoil, causing the surface soil to become saturated. Then the temperature rose and caused the surface soil to defrost. The rising temperature also caused frost reaction—violent heaving and thrusting of the bedrock. These huge blocks of rock and surface soil mixed together and slid into their present position in the





valley flat. After the ice sheet retreated, natural weathering conditions set in and Boulder Field was much as it looks today. The geological term for this action is "periglacial solifluction."

Although about 98 percent of Boulder Field is free of vegetation, the areas surrounding the field are the opposite. Ferns, wild huckleberries and the like make up the low vegetation. Spruce, white pine and hemlock

stand tall along the edge of the field.

Here are a few interesting facts about Boulder Field:

1. Its large irregular size, roughly 500 x 2000 feet, covers approximately 30 acres.

2. There is lack of vegetation within the field itself, except for a few minor encroachments near the southern and western margins.

3. Rocks vary from baseball size to 26 feet in length.

4. Rocks of like sizes are found in "groups" in several areas of the field.

5. The surface of the field is extremely level, having less than one degree of gradient.

Considering all the facts, Boulder Field is a very uncommon part of Pennsylvania's great outdoors.





ANDREWS

THE WEB

By Albert G. Shimmel

THE SPIDER'S WEB was a small part of the complex cosmos of life that centered around the brook, the pool and the open amphitheater in the midst of the swamp.

The pine that bridged the pool had been in place so many years that its decaying surface was covered with thick moss. Each winter, cones from the hemlocks that stood on the perimeter of the opening let loose a shower of winged seeds. Of the myriads that had fallen, two found lodging on opposite sides of the log and had survived to reach a trunk diameter in excess of an inch. Between them the moss was worn and stunted from the constant traffic of many feet. A spider spun a web that connected the spires of the seedlings. Whether chance or design had influenced her selection of this location, the choice was most fortunate. Insects swarmed at dusk above the water and filled the web.

She had been one of several score of spiderlings that had ridden on gossamer strands the previous autumn. She made landfall at the foot of a swamp maple that grew some distance from the water's edge. Immediately, she scuttled under a scale of loose bark, found a deep crevice and settled down to sleep the winter out.

Others were not so fortunate. Some fell into the pool where the trout took them as they struggled helplessly. Cedar waxwings snapped others from the air. A dragonfly took its share as it hawked back and forth over the pool. Once as it hovered just above the water the trout leaped. It missed as the dragonfly darted away.

The stream, mothered by sand springs that flowed into the swamp, maintained a constant flow and temperature. In the winter it did not freeze although at times fingers of ice crept out from overhanging roots.

The trout of the pool was incubated from an egg laid in a gravel bed at the head of the stream. It had been nourished from fry to adulthood by minute organisms, insects and the small minnows with which the water abounded. Caddis fly larvae trundled their pebbled cases over the white sand to find pockets where diatom-rich debris had been shunted by the current. The trout followed and ate them, case and all.

Another Strand

The trail that bisected the clearing was another strand of the web. It was marked by a solitary cedar. The bark was frayed and rubbed where year after year a buck cleared his antlers of their velvet sheath. When the driving passions of the rut had died away and winter lay like a white blanket over the swamp, the buck moved down the old trail once again. Responding to some half-forgotten urge it paused to rub its head against the bark. His right antler dropped away and lay half buried in the snow.

A white-footed mouse, braving the terrors of the Hunger Moon, found the antler where it lay. The elements its body craved were there. When the mouse had gone, the antler was marked with the scorings of its teeth. As night followed night still others came until the antler was the hub of many trails.

A screech owl flew across the opening at dusk. High in the maple's trunk she found a cavity. A barren limb just below was ideally situated for a hunting perch. This tree became her winter home.

Unknowingly, a mouse moved across the open snow. It sought the antler as it had so many times before. The little owl dropped silently. There was a startled squeak. A drop of blood and



A WHITE-FOOTED MOUSE, BRAVING the terrors of the Hunger Moon, found the antler where it lay. The elements its body craved were there.

wing sweeps marked the snow. Wads of matted fur, crushed skulls and broken bones began to fill the hollow of the roost.

A night came when the waning quarter moon was ringed with white. Next day the wind drew from the east. By afternoon the lowering clouds began to drop their burden. At first the flakes were fine as dust but as the day wore on, the silhouettes of nearby trees grew dim, then disappeared. The day and night were one.

The Spider Slept

Within the maple trunk the spider slept. The mouse lay in her nest of cedar bark, hidden in the maple's hollow root. The owl climbed to her door and faced the storm but did not venture out. Brown wood framed her face. The pupils of her eyes expanded in the dusk to orbs of black obsidian framed with gold. Air pockets formed by fluffed feathers held her body heat. Her hunger grew as she waited for the storm to end.

The mouse conserved her body heat until hunger drove her to visit stores she had laid by for famine times like these. She did not show herself above the surface but moved along a web of

tunnels that hid her from the hungry eyes above.

At last the storm passed. The hunger weakened owl quartered the area around the pond at dusk. She perched and for a fruitless hour watched for mice. A kinglet, one of a flock that roosted in a frost-thickened hemlock, lisped sleepily. Pulled by the sound, the screech owl left her perch. Before she reached her goal a great horned owl, coming from above and behind her line of flight, struck. A puff of feathers drifted down to mark the snow.

After the storm the mouse community extended its runways in all directions. Again the gnawed antler became the focal point. Although the snow protected them from enemies above, another menace came to seek them out.

A short-tailed shrew, smallest and fiercest dweller of the swamp, after exhausting its food supply, seeking another range, strayed into the tunnel complex. It ran down a gallery, its nose twitching at the redundant odor of living food. It found a nest at the base of a decaying stump. Before the sleepy occupant was aware of danger the shrew had seized it by the shoul-

der. Although the mouse struggled and thrashed about, the shrew hung on. Secretions from its salivary glands flowed into wounds opened by the long incisor teeth. The poison slowed the breathing and heart action. In seconds the mouse was dead.

Although in bulk the mouse was much the larger of the two, the killer ate until the last scrap of bone and flesh was gone. The basic metabolism of the shrew was so rapid that within a few hours it was hungry again. It found another trail and followed, giving voice to excited titterings of anticipation. Here was good hunting and the little killer made the most of its opportunities.

Fate Saves Female

Fate intervened to save the female of the maple tree. A single trail joined her nest to the complex. One day the snow softened and the buck, coming back along the trail, stepped on the passageway. That night cold turned the saturated snow to ice. The passageway was sealed. The shrew sought more productive hunting grounds.

Day after day the sun climbed higher in the sky. One day the snow was gone and spring had come. The spider awakened and walked stiffly into the light. She found the seedling hemlocks on the log and made her web.

That night the mouse moved to another nest, close by the pond. An overhanging root protected it from rain. This one she lined with softest grass and cedar bark. The weathered sereech owl feathers found nearby were carried in. . . .

At night she met with others of her kind. They fed on maple keys and caught the caddis flies that settled on the leaves, close to the water's edge. They raced across the log and back again. They tempted fate by climbing down a knot and hanging there to drink. .

There came a day when wild azaleas blushed along the swamp. A tanager, glowing like animated flame, sang

through the trees. Within the nest beside the pool, five newborn mice lay snug and warm.

The moon of spring grew from a quarter phase to full. The mice grew with the moon, from blind and helpless things to adolescence. The stirrings of adventure drew them from the nest. They did not venture far at first but seueried back at the least sign of real or fancied danger.

Plump silver maple keys came whirling down. One of the litter, larger than the rest, stayed overlate. At dawn, a sharp-eyed jay observed it as it tried to hide under a fallen leaf. The sharp bill split its skull. With a full crop, the jay cleaned its black dagger on a nearby branch and, chortling, moved on. . . .

Above the crevice where the spider slept the winter out, a colony of carpenter ants carved galleries in the rotting wood. Here the black horde lay dormant during the eold. A subzero morning split the living wood. Spring rains came in. The few survivors sought another tree.

Before the summer came, a swarm of bees entered the hollow trunk and cleared it of debris. They closed the frost crack with propolis and made the cavity waterproof. They gathered pollen, made bee bread and fed the hatching grubs. The colony grew and prospered. Wild honey hung in golden combs.

Honey a Magnet

The honey tree became a magnet. A kingbird came at intervals and caught the busy workers on the wing. They watered at the pool and many were taken by the trout. A keen-nosed bear climbed up the trunk and found the living wood too strong to break. He hung awhile and ate the guards that tried to drive him off. At last he dropped to the ground and rubbed his burning muzzle in decaying leaves to cool the stings. By chance he found the mouse's nest. He tore the root away. Two of the litter were trapped and flattened under an agile paw. The



THE EVENING HATCH was over the water. Mayflies fluttered here and there. Again the cedar waxwings fed. A bird swept in. . . .

female and the two remaining young escaped.

One of the young mice ran across the log and crouched under a piece of fallen bark. At dusk it ventured from its hiding place and cautiously returned along the log. Beyond the hemlock seedlings, a fat brown moth fluttered to free its wings. It had touched the edge of the spider's web but the strands had failed to hold. Hunger overcame caution. The mouse snatched the moth and sitting on its haunches began to eat.

The evening hatch was over the water. Mayflies fluttered here and there. Again the cedar waxwings fed. A bird swept in above the feeding mouse. The rodent's ears picked up the sound of wings. It leaped in fright and lost its footing. There was a splash—a swirl, then all was still.

The last fly of the evening fluttered down. It dropped its eggs and floated through the pool. In the shadow of the undercut trout slowly fanned the white sand with its fins.

The female mouse ran for the sanc-

tuary of her winter den. As her fear subsided she became aware of the bee colony. Her nose awakened hunger for the treasure stored above.

The mouse climbed without difficulty toward the insect community. Although they had varnished and sealed the weather crack and the interior of the trunk, the partially decayed wood at the bottom of the hive was covered by the thinnest shell. Here the rodent's sharp teeth made a passage for her body. She entered and cut away some half-filled cells and feasted.

In the nights that followed she took more and more of this convenient store. One night her added weight caused a weakened comb to break away and fall. It sealed her exit. The odor of the honey from the broken cells brought angry guards. She panicked, dashing here and there. Soon she was lost under a stinging horde. Two days later her body was a brown cocoon, sealed in propolis. It lay forgotten while the bees repaired the damaged cells.

Wariest Survive

The wariest of the litter alone survived. With cedar bark she built a nest under an arch of hemlock roots. Before the summer waned this nest became a nursery and other mice followed the beaten trail across the log. One day the spider left her web and found a secret place under the thickest hemlock bough. She left a cluster of eggs, safely trussed in silk. Scarcely had she returned to her hunting when a wasp swooped down. The sting went home and she was borne away.

When autumn came the buck visited the clearing once again to broom his crown against the cedar's bark. The trout moved up the brook with others of his kind to spawn. Spiderlings climbed the hemlock spires and drifted away on silken strands. Concentrated sweetness from the swamp filled the maple trunk. At night white-footed mice played everywhere. The web was gone and yet the web remained.

Here Is Some Background on . . .

The Flintlock Pennsylvania Pistol



By Jim Hayes

ONE OF THE stories about famed frontiersman Kit Carson concerns his encounter with a bully who boasted that he had shot a dozen men in gun fights. "I can beat any Englishman, American, Frenchman, Dutchman or Spaniard!" he proclaimed. "Who will accept my challenge?"

"If you're determined to die," Kit replied, "I suppose I'll have to oblige you."

The men mounted their horses, rode off in opposite directions, then wheeled and raced toward one another at full gallop. When they were at close range, the braggart fired his pistol, but the shot went wide of the mark. Kit drew abreast of the man, cocked his own pistol, and leveled it at his opponent's head.

The bully jumped from his horse and fell to his knees. "Don't shoot!" he pleaded. "I've met my match."

The pistol Kit Carson used that day was a 54-caliber flintlock popularly known as a Kentucky. Originally designed for military use, handguns of this type were adopted as companion pieces to the famous and equally misnamed Kentucky rifle.

Actually, both guns originated in Pennsylvania. In most modern accounts of the American long rifle, writers are setting the record straight by referring to it as the Pennsylvania rifle or the Pennsylvania-Kentucky rifle. The time seems appropriate to begin referring to the so-called Kentucky pistol by its proper name.

Hereafter in this article, it will be



JIM HAYES USES makeshift rest to steady his aim as he tests his reproduction flintlock Pennsylvania pistol for accuracy.

referred to as the Pennsylvania pistol.

The Pennsylvania rifle was a single-shot, muzzle-loading gun. Frequently, hunters, frontiersmen and militiamen were unable to reload in time to get in a quick second shot. The flintlock pistol provided an effective back-up weapon. In its heyday — from about 1807 to 1850—the Pennsylvania pistol played an important role in American history.

Long before the 1800s, flintlock pistols of various types were in common use. Handguns date from the early Fifteenth Century. Matchlock pistols were used by the French cavalry in 1550. Eventually the matchlock evolved to the wheel lock and thence to flintlock.

Flintlock pistols are commonly associated with the pirates and buccaneers of the Seventeenth Century. They were also popular during the dueling era from 1770 to 1840. Aaron Burr killed Alexander Hamilton with a flintlock dueling pistol. Two years later General Andrew Jackson dispatched Charles Dickinson, also on the field of honor.

European Background

During the Colonial and Revolutionary periods, most flintlock pistols used in this country were made in Scotland, England, France or Germany. They were carried mostly by officers. According to tradition, "the shot heard round the world" was fired from a Highland flintlock pistol by Major John Pitcairn, commander of the British regulars at the Battle of Lexington, April 19, 1775. George Washington owned a set of silver-mounted flintlocks made in London.

The first official pistol maker for the U. S. government was Simeon North of Berlin, Conn., who received a contract for 500 pistols in 1799. These smoothbore flintlocks were 69 caliber, weighed over three pounds, and were patterned after the French Model 1777 army pistol. Between 1799 and 1828, North made approximately 52,000 pistols for use by the Army and Navy.

Another American flintlock, the Model 1806, was made at the Harpers Ferry Armory. These were beautifully designed, well balanced, reasonably accurate half-stock pistols, 54 caliber, with an overall length of 16 inches. Prized by collectors, they now command high prices.

In the early 1800s, the government awarded contracts to a number of Pennsylvania gunsmiths for flintlock pistols. They included William Calderwood, J. Guest, J. Henry, J. Shuler, Molan and Finn, Jacob Cook, A. and J. Ansted, Adam Leitner and Martin Frye. At this point, the history of the American flintlock pistol as a distinctive type of gun begins to merge with that of the American long rifle.

Years earlier, in the early 1700s, gunsmiths from Switzerland and Germany who had settled in Lancaster County, Pennsylvania, began to redesign the heavy, large bore rifles made in the Old World to meet conditions found on the American frontier. The result was the American long rifle, also known as the Pennsylvania rifle.

These guns were first used during the French and Indian War (1754-60), but did not achieve widespread popularity until 1775 when the Continental Congress ordered a supply sent to Boston. They were used during the American Revolution and for years thereafter. They were later modified to light, lower caliber rifles—Pennsylvania-style plain rifles—and to the heavy caliber, half-stock plains rifles carried westward.

Beginning about 1807 when Pennsylvania gunsmiths received their first contracts for flintlock pistols, they began adding their own refinements to the Harpers Ferry Model 1806 pistol. Just as the Pennsylvania rifle was a full-stock gun, the stocks of these pistols extended nearly to the muzzle of the approximately 10-inch barrel. The total length was some 16 inches. Wooden ramrods with brass tips were carried under the barrel. The guns often were marked "US" behind the hammer.

Made Till Mid-1800s

Flintlock pistols continued to be made in this country until the mid-1800s. Later models were made in various calibers and stylings, including the Harpers Ferry model, Pennsylvania and Pennsylvania-style, and dueling pistols of many designs. The last flintlocks ordered by the government were contracted for in 1840. Thereafter, all government orders were for percussion pistols. When the flintlock era ended, many pistols, like many rifles, were converted to percussion.

Today, with a new generation of shooters rediscovering black powder, muzzle-loading guns of all types are

again finding favor. For those turning to muzzle-loading rifles for deer, bear and turkey hunting, the Pennsylvania pistol makes an ideal companion piece. It enables the hunter to get off a quick second shot instead of having to reload the rifle. Even for deer and bear, the Pennsylvania pistol in calibers 44 and up packs a lethal wallop at close range and makes a perfect *coup de grace* firearm.

Since antique guns of almost all types are scarce, expensive and frequently unsafe for shooting, it makes sense to retire them to a place of honor on the mantel and acquire a reproduction or replica to take afield. Reproductions styled in the old tradition are available in flintlock and percussion rifles and pistols from a number of manufacturers.

About a dozen makes of reproduction pistols are on the market today. Flintlock models include Pennsylvania and Pennsylvania-style pistols and the Harpers Ferry Model 1806. One Pennsylvania pistol is made in Italy, imported by Intercontinental Arms, Inc., and sold through federally licensed dealers.* This is a full-stock 44-caliber pistol with a 9½-inch octagonal barrel and overall length of 14¼ inches. Unlike the smoothbore originals, this



GROUPING ABILITY of the "obsolete" muzzle-loader is shown by this group fired at a range of 20 yards. Some of today's handguns won't do this well.



CHARGE OF BLACK POWDER is poured from measure into pistol barrel. Smokeless powder must never be used in these guns.

replica has a rifled bore which makes for greater accuracy.

I recently acquired one of these pistols and put it to the test on my backyard shooting range. Like all flinters, it touches off with a *whoosh-bang* and a fiery cloud of smoke that adds a new dimension to the sport of handgunning.

Loading procedure is to pour a charge of FFFg black powder down the barrel. The rule of thumb is one grain of black powder per caliber, or 44 grains of powder for a 44-caliber gun. The use of *black powder only* is a must, since modern smokeless powder is far too potent for these guns.

The second step in loading is to

LEAD BALL IS seated on cloth patch on muzzle, then shoved in with ramrod to seat on powder charge.



place a cloth patch over the muzzle. Place a lead ball on the patch and ram it in with the ramrod, seating it on the powder charge. Finally, priming powder is placed in the pan beside the touch hole. The metal frizzen is then lowered to hold the powder in the pan.

When the hammer is cocked and the trigger pulled, the flint strikes the metal frizzen. This slams the frizzen forward, exposing the powder in the pan, simultaneously striking sparks downward. The priming powder touches off, flashing through the touch hole to explode the charge in the barrel.

Unlike percussion muzzle-loaders, flintlock guns fire with a split-second



POWDER IS placed in pan alongside touch hole. Metal frizzen, shown open, is closed for final loading step.

delay between ignition of the priming powder and explosion of the main charge. This means you must continue to hold on target after pulling the trigger. I'd expected misfires to be common, but if the flint is well adjusted and the pan properly primed, the gun will fire consistently. I've fired as many as 20 to 30 shots without a misfire.

I found my Pennsylvania pistol to be reasonably accurate for offhand shooting at the traditional dueling range of 20 paces. Beyond 25 yards, even from a rest position, scoring on anything smaller than a bushel basket is more a matter of luck than skill. Or



WHEN TRIGGER IS squeezed, there's a whoosh-bang and a cloud of smoke—and when the atmosphere clears there's a nice round hole in that target some 20 steps away.

at least it is for me; perhaps others can do better. Chances are, the round ball projectile, which is about the poorest form possible from a ballistic standpoint, has much to do with the poor results at longer range.

Having switched over entirely to black powder guns—percussion cap shotguns for small game, and a flintlock rifle for deer—I'll be taking my Pennsylvania pistol along with me next deer season. So if you hear a *whoosh-bang* and see a cloud of smoke, don't be concerned that some hunter has blown his gun up. That'll be me, brother, getting ready to drag out a buck!

*This is a company policy, not a legal requirement. Muzzle-loading firearms, both antique and replica, are exempt under Title 18 U.S.C. Chapter 44 (Gun Control Act of 1968).

No Wonder They're Scarce

Most female condors rearing young lay a single egg in alternate years, and it takes about six years for the offspring to mature.

Our Kind of Nymph

The dragonfly nymph, as an underwater insect, has been known to eat mosquito wrigglers at the rate of 20 per minute.

Big Trees of Pennsylvania

Anyone interested in Pennsylvania's trees will find this 32-page pamphlet fascinating reading. It lists and gives circumferences, heights and crown spreads for the largest known living examples of 87 different species of trees in this state. It also tells exactly where each example is located, so that interested persons may visit them. This pamphlet is the latest available information on the subject. The search for big trees in Pennsylvania is carried on by the Pennsylvania Forestry Association. It officially began with an article by Joseph T. Rothrock, "Some Big Trees of Our Region," which appeared in the November 1888 issue of *Forest Leaves*, and has been aided by the Department of Forests and Waters, which has filed reports on more than a thousand big or historic trees in the Commonwealth. Twenty-one Pennsylvania trees are (or were until recently) national champions. One example is a white ash which measures 24 feet in circumference at a point 4½ feet above the ground; this tree is 80 feet high and has a spread of 82 feet. It is located at Glen Mills in Delaware County. Copies of this pamphlet are available at 50 cents each from the Pennsylvania Forestry Association, 5221 East Simpson Street, Mechanicsburg, Pa. 17055.



A Sad, Sad Tail

By Clancy, a Beagle
As Told to Day C. Yeager

HAVE YOU EVER found yourself standing in the rain with one foot on each side of a strand of wire, and suddenly been made aware that you were straddling an electric fence? Or have you ever been faced with the situation of proudly showing a Game Protector your limit of four rabbits and two birds and found there's still a lump in your hunting jacket that you know isn't your lunch? Is that your problem, cousin? Well, cheer up and be grateful for small things. Any situation is better than hunting with Old Plowfoot.

His given name is Day C. Yeager, but I call him "Plowfoot" for obvious reasons. Although there are nearly 58,000,000 square miles of land surface on this oversized eight-ball of ours, I can't seem to find a spot to lay my tail where he doesn't stomp on it.

The two of us should get along well, we have so much in common. Heads fairly long, domed, with broad craniums. Loud, excited voices. Eyes hazel to brown, set far apart. Ears set low, moderately long, close to the head, never erectable. Throats full, free from skin folds; necks stout and strong. Shoulders sloping, deep broad chest, and strong legs. If he had a tail to tromp on, we'd be on even terms.

Plowfoot is an avid hunter. He hunts bars, arguments, flat stumps to sit on, legal loopholes, catastrophes, and an occasional rabbit. It is the last mentioned item that brings out the horrors of war.

Around here, in contrast with most hunting households, the night before small game season sets a scene of domestic tranquillity. Plowfoot sits in front of the boob tube with a platoon of beverage cans on his right flank and a battalion of pretzels on the left. He takes on that smile of contentment that can come only from watching a pro-

gram that offers a happy ending to a series of carefully contrived homicides. The kids toddle off to their trundles, after a bewhiskered good-night kiss. The Missus hangs up her dish towel and covers the canary for the night. She waves a fond good-night to her "death do us part" and retires to dreams of tomorrow and more dishes in the sink, cabbages, and rings in the bathtub. For all intents and purposes, it is much like any other normal evening in any normal "Home Sweet Home."

Then things go awry. It is hours later and the silence is broken only by deodorant ads, screams of agony, and the exhaling gasps of cans being opened. I have my tail curled under the doorstep, a practice I have followed since psychologists have discovered that dogs think. The clock strikes one, Old Plowfoot turns off the peacock as it is about to lay another egg. He yawns, crumples the pretzel bag and heads for the sack. As his right shoe hits the floor, the clock hits the quarter-hour and Plowfoot hits the ceiling.

The First Day!

"*Yeeoooooww!* Wake up. Tomorrow is the first day of rabbit season. What's everybody doing in bed? I gotta have a lunch. Where's my boots? Anybody seen my hunting license? Did Joe call? Is the gas tank filled?"

The hunt is officially on. Plowfoot directs the search as orders are given to each sleep-walking member of the household. Junior is sent on a boot hunt, Sis is in charge of locating the rubber patches to plug a hole that Plowfoot remembers in case Junior finds the boots. The Missus is given a list of standard staples that include anchovies, beef tongue, chicken liver pâté, olives stuffed with almonds,

camembert, gherkins and pumpernickel. He finally has to settle for bologna on rye, dill pickles, and mustard.

Amidst the confusion, Plowfoot calls Joe. He reaches Joe only after three attempts to remember his number, dialing the wrong number each time and receiving two lectures on the evils of strong drink, a promise of a punch in the nose, and the renewed information that it is 1:30 in the morning. He and Joe finally get together on the phone and decide to attack at dawn.

Living Room Covered

By 2:30, the living room floor is covered with an array of breeches, socks, knives, caps, shells, gloves, snake-bite kits, hand warmers, signal flares, waterproof matches, a hunting jacket, and a gun. But no boots. Everybody is sent back into the search.

"Where're my boots?" Plowfoot bellows. "I know I didn't hide them. I always leave them in the middle of the kitchen floor and they're not there."

"Now, dear," the Missus offers, "I couldn't leave them there for a whole year."

Plowfoot studies her logic for a moment and comes to a logical conclusion.

"Why not, we'd know where they were."

I can stand the suspense no longer. I enter the living room and pull Plowfoot's jacket off the boots where he has carefully buried them in his hasty preparations.

"Why, here they are," says Junior, "in the middle of the living room floor. I wonder how that happened?"

To save further argument, the Missus uses her usual diplomacy. "I remember, dear, you left them in the living room last year, not the kitchen."

Plowfoot steps on my tail, examines the boots, mumbles something about not wanting to patch them so late at night, and stating that he hopes he doesn't step into a puddle with his right foot. Soon thereafter, the house is once again settled down for the

night and I curl up by the doorstep.

Early next morning, I am awakened by the *Bronk, Bronk, Bronk* of Joe's car horn in distress. Joe is obviously sitting in the driveway bellowing his mating call for old Plowfoot. When that fails, he glues his finger to the door chime button—a rather useless operation, as he soon begins breaking down the door anyway.

Plowfoot hits the floor with a resounding crash, stumbles into the dresser, knocks over a bottle of perfume, and then tells the Missus not to wake up. He lets Joe in and the two of them begin a crash program of preparing breakfast. They place bread in the toaster, grease in one pan and bacon in another. Their timing is perfect because a few minutes later everything burns at exactly the same moment.

The acrid smoke brings the Missus to the rescue and she dumps their efforts into the garbage can to begin anew. Although the second breakfast smells delicious, I remain out of sight with no desire to become involved with this matching pair of characters. I have gone this route before.

They finish their meal, load up their gear and back out of the driveway. As they leave, Playfoot yells, "We'll be back." The Missus contemplates that possibility for a moment, sighs, and goes back to bed. But not for long. The gruesome twosome have forgotten to take their lunch, reenter with much confusion, gather up their larder, and again promise to be back. They are gone with a slam of the door and a squealing of tires.

Screaming Tires

I settle back to dream of a French poodle I once knew and all is well. Well, that is, until another screaming of tires heralds the return of the great white hunters. They simultaneously ring the bell and pound on the door.

The Missus lets them in and they head my way. I suddenly realize that their plans include my company. They haul me out, throw me into the front



I CAN STAND THE SUSPENSE NO LONGER. I enter the living room and pull Plowfoot's jacket off the boots where he has buried them.

seat, extract me, throw me into the back seat, extract me again, and finally decide on dumping me into the trunk. Their logic is based on the fact that I might get sick in the front. If the truth were known, I have a lot less chance getting sick if I don't have to ride with them. I try to sleep but their loud chatter permeates the trunk.

"Where you want to hunt, Joe?"

"I don't know, where do you want to hunt?"

"Oh, I don't care, wherever you want to hunt."

"Oh, I'll hunt wherever you'd like to hunt."

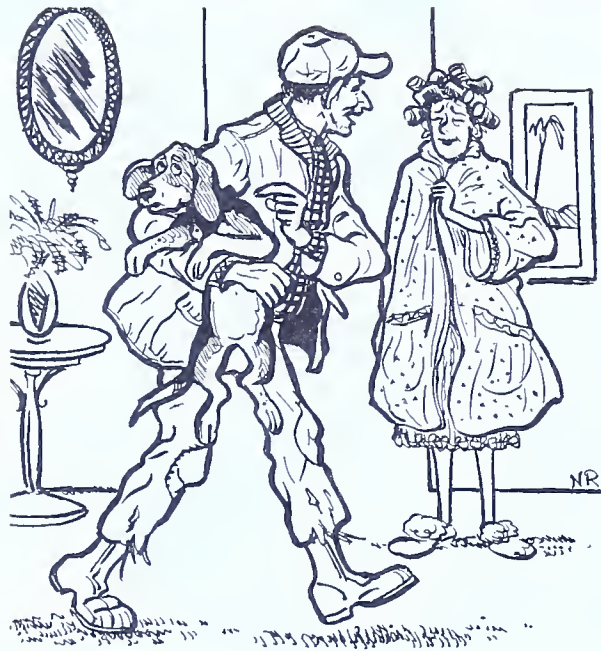
"How's come I always have to decide where we hunt?"

If their intellectual conversation weren't so high level, I could offer suggestions. A tramp through a bed of quicksand would be nice for these two, or a slosh through a piranha stocked swamp without boots. Maybe a stroll inside the Bengal tiger moat at the St. Louis zoo would be eventful. Or even—

My pleasant thoughts are interrupted by Joe's suggestion, "How's about Heffelfinger's swamp? We missed quite a few there last year."

Actually, they missed them all but I have no way of reminding them of the fact from the trunk. Heffelfinger's it is, and we finally bounce down the last lane as I desperately fight off a tire iron, a jack, and a set of chains that keep attacking from the rear. It is indeed pleasant relief that we finally grind to a halt and the trunk lid is opened. The ride has been a long one and I do what any red-blooded beagle would do. For this, I get a long lecture about hurrying up and chasing rabbits. Ignoring said lecture, I make the mistake of sniffing a bush with a rabbit in it, much to his sorrow. Old cottonbottom just can't sit still long enough to learn that he is the least of my problems. He has to run out in the open and stop in front of the gruesome twosome.

BRRROOOM! BRRROOOM! BRRROOOM! BRRROOOM!



THE MISSUS LETS THEM IN and they head my way. I suddenly realize that their plans include my company. They haul me out to the car.

"I got him!" Plowfoot shouts.

"You did not. I got him," Joe bellows.

They have both got him, with all four loads. As they pick him up simultaneously, tugging at both ends, their argument is settled for them. They each end up with half a rabbit. More correctly, they each become the proud owners of a pair of good luck charms and little else. They then proceed to enact the "I'm a good sport, you take the rabbit" bit. After much debate, Plowfoot loses and proudly stuffs the trophy into his big game pocket. The loser of the Big Sport grapple doesn't have to field-dress this one.

As we move out, Plowfoot tail stomps another cotton belly. This one makes the mistake of broken field running. Actually, any rabbit that runs straight ahead of Plowfoot is eligible for reduced insurance rates. But when they swerve, they often run into a load of shot that was intended for a stump. This one probably leaves a family of a hundred or more; he's over a year old.

The boss picks up his prize and proceeds to explain to Joe a new system of field-dressing a rabbit. He withdraws his knife and slits the bunny from esophagus to exodus, folding the little animal in the middle.

"Now watch this, Joe," he advises. "I shall merely sling out the entire interior of the rabbit with one swish. It will be thoroughly cleaned by this practiced procedure."

He swishes and the rabbit is clean, but now Joe isn't. Joe is deeply impressed by the new technique. I, too, am impressed as it is the best shot Plowfoot has made in years.

Time to Eat

When Joe gets cleaned up, it is time for him to eat. He is an avid eater and hunter in that order. Whenever he is hunting, he is eating. I thoroughly enjoy his act when a rabbit goes out during his repasts. His style includes holding his gun under his left arm, carrying a kosher dill pickle in his left hand. His right hand is filled with a sandwich of any denomination. He's a master at building them.

When the rabbit bounces, Joe initiates his operational procedure. He sticks the pickle in his mouth, switches the sandwich to his left hand, tosses the shotgun to his right hand, wrapping the sandwich around the forestock of his gun, and fires. He usually misses. Next, he takes the pickle from his mouth, sticks it in his pocket, ejects the shell, reloads, closes the gun, removes the gun from the sandwich, puts it back under his left arm, removes the pickle from his pocket and puts it back into his mouth. Then he puts the sandwich in his right hand, and with his left hand removes the pickle from his mouth and resumes eating and hunting.

The hunt goes on. Even though I try to let Heffelfinger's rabbits sit, they nervously insist on running out in front of the square pair. Twelve shots are fired before the law of averages rears its ugly head. Somebody hits one. Then the argument begins all over.

"I hit him hard, he can't go far," shouts Plowfoot.

"You missed him," Joe argues. "I saw your load ten feet ahead of him. I'm the one that knocked the feathers out of that boy."

Five minutes of diatribe later, Joe gives up and the honors go to old pretzel pouch. A search reveals that he has won the battle but has lost the war. The rabbit has wandered off. Now this is one thing I don't like. I leave in search of the poor unfortunate one wearing a tail full of lead. There isn't much I can do except to explain that I am sorry, that I would much prefer to be a watch dog and bite burglars. I sniff along the trail hoping to find that the wounds are purely superficial. Alas, my efforts come to a sad end. The poor little bunny has joined his ancestors and there is not much I can do except to see that he gets a decent burial in a potful of potatoes, onions, carrots, and celery. I pick up the furry form and head back towards the commotion corporation. Using the old canine cranium, I approach the great white hunters from the rear in order to protect my future.

Waning Spirits

The day is waning and so are my spirits. It has been a bad day for the rabbits and a good one for Plowfoot. Neither fact improves my temperament and I could be excused for what happens shortly thereafter. A member of the genus *Mephitis*, a skunk, ambles into my path and threatens me with that old bit of foot stomping and tail erecting. I tenderly place the little bundle alongside the trail and proceed to tell this mixed-up cat to get going. He does, in the direction of the war lord. As I follow the action, I see the skunk run up to Plowfoot and stomp his feet. They square off and Plowfoot stomps, right into a deep puddle with his right foot. This gives old *Mephitis* the advantage he needs and soon both combatants smell exactly alike. The winner leaves and I have a new respect for skunks; they're

not all bad. As I go back for my rabbit, I hear words you wouldn't believe, then the voice of a third party asking if he can be of help.

As I return with my find, a conversation has already been in process. The owner of the third voice is neatly dressed in a green uniform. He is standing upwind from Plowfoot and asking pertinent questions.

"How's luck?" he asks Joe.

"Had quite a few shots but didn't hit a thing," answers honest old Joe.

"And how about you, sir," he asks the old man.

"Good day, got my limit of four. Joe here isn't too good with the old



"GOOD DAY, GOT MY limit of four. Joe here isn't too good with the old scattergun. I aim so I don't fill them full of shot, except. . . ."

scattergun. Yep, four, take a look, they're not bad. I aim so I don't fill them full of shot, except this one that Joe blasted after it was dead. Wish you hadn't done that, Joe."

The officer politely adds, "Yes, I guess you are a pretty good shot. Not everybody gets his limit."

Since the great one has his rabbits lined up neatly for the officer's inspection, I feel it only appropriate that I

place his rabbit alongside the rest, which I carefully do.

"Well, now, what a nice looking beagle," the officer proffered. "And he brought you another rabbit. How considerate. That does, however, make five, one over the limit."

Plowfoot looks stunned so I go over and lick his hand and wag my tail. He seems to pay no attention, except for changing color from white to green to purple.

"I, I nev- never saw this mutt in my life officer. Must be some stray mongrel that found himself a rabbit."

I figure that Plowfoot is confused if he doesn't recognize his old tail-stomping buddy, so I proceed to roll over, sit up and speak and all the other stunts he has taught me to perform.

"Not your dog, eh?" asks the officer. "How come he's so friendly? Seems to me he knows you well."

Plowfoot tried another one. "Say, Joe, isn't that the one rabbit you hit awhile back?"

"Nope, we discussed that. Don't you remember that you were positive that I had missed. You convinced me, old buddy. I guess you really know how to hit them." Joe has a way with words. He also has a way with sandwiches which he proceeds to demonstrate in harmony with a bag of potato chips.

"I'm sorry, sir, but I'll have to ask you to turn around so I can write

down your license number. A little bad luck here, but one too many is still one too many." I feel sure that that statement may go down in history, at least in Plowfoot's history.

A little later, we meet a very kind J. P. He not only agrees to collect the fine in the backyard, at a reasonable distance from Plowfoot, but offers several recipes for removing skunk odor from clothing. The officer thanks everyone concerned, tips his hat politely, and departs to other duties.

On the way home, Joe and Plowfoot don't talk much. Joe grumbles about it being cold with the windows open, but he won't let Plowfoot close them. They have put me in the back seat this time and their fears are not unfounded. I get sick.

Things are back to normal back at the ranch. Plowfoot is back in front of the boob tube, cans of refreshment on the right, pretzels on the left. There is the usual number of screams and shrieks. The Missus adds a few to those coming out of the one-eyed monster. Then she hangs up her dish towel, covers up the canary and goes to bed, confident that her hero will stay until the last commercial is kaput.

I am playing it cool, not pressing the old boy. I keep my tail under the doorstep, hope that I won't get invited to the next hunt, and wish I could get a job as a watchdog. I really like rabbits, you know.

Wildlife Society Unit Elects Pennsylvanian

Glenn L. Bowers, executive director of the Pennsylvania Game Commission, has been elected chairman of the Northeast Section of The Wildlife Society for the next two years. Bowers, who succeeds Stuart S. Peters of the Canadian International Development Agency, Ottawa, Canada, in the post, was elected at the annual meeting of the Society in Wilmington, Del. Bowers had been vice-chairman of the organization.

Several other Game Commission personnel were named to important positions by the organization. Game Biologist Stephen Liscinsky, State College, was named chairman of the 1971 Awards Committee, and Game Biologist Stanley Forbes, Ridgway, was named co-chairman of the 1971 Big Game Sessions. Roy W. Trexler, the Game Commission's information and education chief, was reelected secretary-treasurer of the Northeast Conservation Information and Education Association, which also met in Wilmington.

Spring Migration

By Eugene R. Slatick

AS YOU READ these words millions of birds are winging their way northward to Pennsylvania and beyond. Some are coming from as far away as South America; some began their trip in nearby southern United States. A variety of birds are coming, from the tiny, flitting ruby-throated hummingbird to the large, soaring broad-winged hawk. Some will stay and nest in Pennsylvania, whereas others will stop for awhile and then continue northward. Thousands of birds will never complete the journey, for danger accompanies the migrating bird. Still, the birds press on, spurred by mysterious drives.

Spring migration begins almost unnoticeably about February. The birds of winter, such as the slate-colored junco (the "snowbird") and the white-throated sparrow, begin to leave. Gradually the birds of summer begin to arrive. At first there are only a few scattered about. Then there is a steady rise in both the number and the variety of birds around. The peak of mi-

Wood Thrush



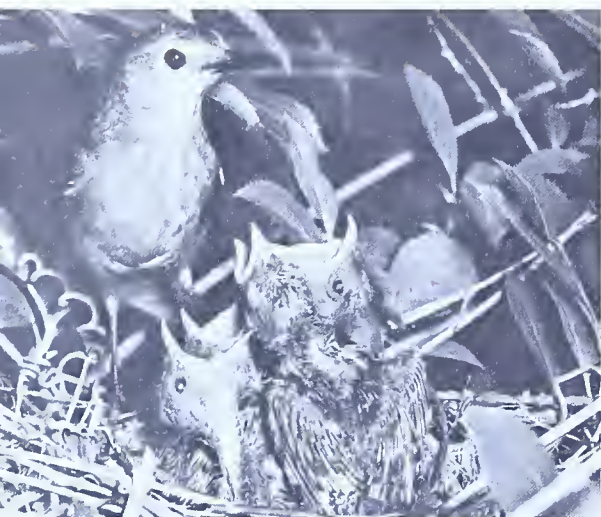
Ruby-throated Hummingbird

gration occurs during the first half of May.

Thanks to bird-banding programs, we know that the birds spent the winter down south. We even know the routes they take. In general, the birds reach the U. S. by island-hopping in the Caribbean, flying across the Gulf of Mexico, or following the land route through Central America.

But not too long ago people weren't quite certain just what happened to birds during the winter. Some persons suggested that they hibernated. Others thought that large birds carried small birds on their backs to and from wintering areas. One fellow even claimed that the birds spent the winter on the moon, making the trip in about two months.

Although we know a lot about how birds spend the winter, the reason why birds leave and why they return isn't very clear. One possible reason for leaving is to avoid the cold weather—but many birds leave while the weather is still warm. Another possible



Catbird and its young.

reason for going south is the lack of food—but the birds often leave before the supply dwindles. There are other possible reasons, but none of them are completely satisfactory. And when the birds get to their wintering grounds, why do they bother to fly back north in the spring? Complicating the problem is the fact that not all birds migrate. Some adjust to changing conditions by growing more feathers and by changing their diet. Some birds, such as geese and ducks, will stay around all winter if food is available.

Real Reasons Buried

The best answer to why a bird migrates probably lies buried in the geologic past. Birds probably migrated millions of years ago for reasons we may never know. That migratory behavior apparently was so greatly imprinted on the whole makeup of the bird that it was passed along to countless generations. Today, the migratory behavior may be triggered when the bird is exposed to certain physiological stimuli, such as the changing length of day, or when its biological clock strikes a certain "hour."

If finding out why birds migrate is puzzling, learning just how they do it isn't much easier. How does a bird know which route to take and which direction to head to its summer home

hundreds or even thousands of miles away? Barn swallows, for example, commonly return to the same nesting area, sometimes the same nest, even though they spent the winter thousands of miles away in Central or South America.

The search for an answer to how a bird navigates points to the conclusion that the bird orients itself visually, taking into account the sun, stars, and landscape. Evidently the data are fed into some guidance system built into the bird. Somehow the bird knows when it should stop migrating—when it has reached its summer home. An early writer had a very simple answer to how a bird finds its way: Providence guides it.

Some Answers Known

Bird migration isn't all a mystery, however. By watching migrating birds in a variety of ways—from the ground and airplanes, on radar, and in the night as they cross the face of the moon—and by examining the birds themselves, ornithologists have discovered a lot of fascinating things.

For example, they found that the birds migrate at elevations mostly below 3000 feet and frequently between 500 and 1000 feet. When the weather is clear, however, some birds will fly at heights of over a mile. The winds

Nighthawk



have been found to influence migration. A wind from the south often speeds up migration in the spring.

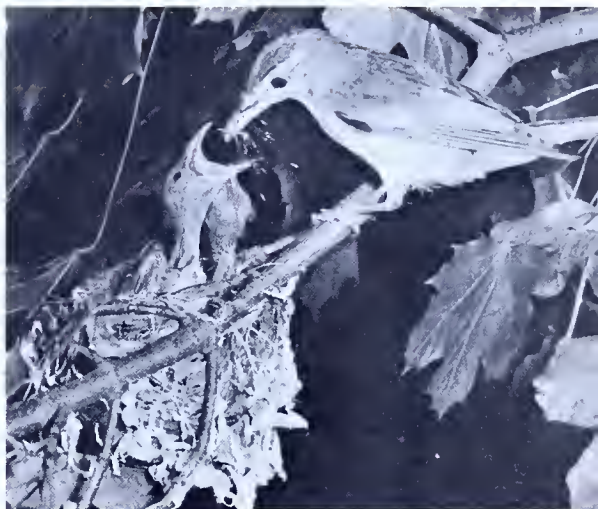
They also found that many birds migrate by night; among these are the warblers, wrens, and kinglets. One reason why some birds might prefer to fly at night is that the darkness gives them protection against winged predators; during the day the birds can feed and rest. Birds that migrate by day include hawks, swifts, swallows, the ruby-throated hummingbird, eastern kingbird, and robin. Some of the large birds, such as geese and ducks, migrate both day and night. Compared with a bird's speed capabilities, the rate of migration is relatively leisurely; fast-flying birds don't migrate at top speeds.

Temperatures Important

Another interesting thing learned is that some birds move northward with a certain average temperature. The Canada goose heads north with the 35° F. line, keeping just south of the average freezing line. Swallows appear to follow the 48° F. line, the temperature when many insects begin to fly.

When nature produced the migrating bird it made sure that the bird was designed to undertake long flights. For just as the bear accumulates fat before

Eastern Robin



Red-eyed Vireo and young.

hibernating, so does the bird before migrating. The fat is a ready source of energy when the bird has to make sustained flights. A certain hormone enables a bird to get fat at migration time. Sometimes the fat accounts for almost half of a bird's weight. Small birds have to stop frequently during migration to feed and replenish their fat supply. Large birds, however, can go longer without feeding; hawks, for example, can go for several days without food. In general, the amount of fat a bird accumulates seems to be related to the distance it must travel.

Disastrous Clashes

Bird migration frequently clashes disastrously with bad weather and with man's activities and developments. Storms sometimes force many birds down into large bodies of water. Cold snaps can kill thousands of birds. Illuminated towers and buildings have caused the death of many; the birds are attracted by the lights and fly into the structures. Of greater consequence is the collision of a plane with birds, particularly the larger birds, and the danger is increased during migration. Radar is frequently used to detect flights of birds that might be hazardous to aircraft. Canadian scientists have found that some radar beams can make some birds move out of the

Approximate Arrivals, Departures and Lengths of Stay

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Green Heron												
Broad-winged Hawk												
Whippoorwill												
Nighthawk												
Chimney Swift												
Ruby-throated Hummingbird												
Eastern Kingbird												
Eastern Wood Pewee												
Barn Swallow												
Purple Martin												
House Wren												
Catbird°												
Brown Thrasher°												
Robin°												
Wood Thrush												
Red-eyed Vireo												
Yellow Warbler												
Prairie Warbler												
Yellowthroat												
American Redstart												
Bobolink												
Baltimore Oriole												
Common Grackle°												
Scarlet Tanager												
Indigo Bunting												
Rufous-sided Towhee°												
Chipping Sparrow												

°Occasionally found in parts of the state all year.

way, and they are working on a radar “broom” that planes could carry to sweep birds out of their path.

If you are looking for something to do during the spring you might try watching the birds arrive. Birding requires a binocular, a field identification book, and a pencil and paper to record what you see. You can do it with a birding club, or you can do it

alone. If you begin before May you’ll see how the number of different birds increases. During early May you might see several dozen different kinds of birds during a day in the field. Later, as the migration peak passes, the birds you see will be mainly those that will nest in the area. Many birds, particularly the warblers, are easier to identify in the spring because that’s when

they are the most colorful and distinctive; the plumage in the fall is often drab and without strong patterns.

Technical advice on the best size binocular for bird watching is outside the scope of this article, but in general it can be suggested that a 6 x 30 or 7 x 35 will do well. For more complete information, see J. David Truby's article, "Big Eyes for the Hunter," in last month's *GAME NEWS*. Though not written for bird watchers, much of the material is pertinent.

Whether or not you go out to greet the migrating birds, you'll have to admit that the return of the birds is a wondrous event. And with the birds come the promise of warmth, long days, and new life.

WHERE SOME OF PENNSYLVANIA'S BIRDS SPEND THE WINTER

Southern United States: brown thrasher;* robin;* common grackle;* chipping sparrow* (also along the Gulf of Mexico).

Southern United States to South America: broad-winged hawk (Florida to northern South America); ruby-throated hummingbird (Florida to Central America); prairie warbler (Florida and West Indies); indigo bunting (Cuba and Central America).

Central and South America: nighthawk (South America); chimney swift (Peru); eastern kingbird (Costa Rica to Bolivia and Peru); eastern wood pewee; barn swallow; purple martin (mostly Amazon Basin); red-eyed vireo (northern South America); American redstart (West Indies, Central America, and northern South America); bobolink (central South America); scarlet tanager (northern South America).

*Occasional resident in Pennsylvania.

FOR FURTHER READING

A Field Guide to the Birds, by Roger Tory Peterson. Houghton Mifflin Co., Boston (1947).

A Field List of the Birds of the Delaware Valley Region, by Alan Brady and others. Delaware Valley Ornithological Club; Academy of Natural Sciences, Philadelphia, Pa. (1959).

A Field List of Birds of the Pittsburgh Region, by Kenneth C. Parkes. Carnegie Museum, Pittsburgh, Pa. (1956).

Bird Migration, by Donald R. Griffin. The Natural History Press, Garden City, N. Y.

(1964).

Birds of Pennsylvania, by Merrill Wood. The Pennsylvania State University, College of Agriculture, University Park, Pa. (1967).

Migration of Birds, by Frederick C. Lincoln. Fish and Wildlife Circular 16. U. S. Government Printing Office, Washington, D. C. (1950).

Pennsylvania Birds, an Annotated List, by Earl L. Poole. Livingston Publishing Co., Narberth, Pa. (1964).

The Migrations of Birds, by Jean Dorst. Houghton Mifflin Co., Boston (1962).





REED SOERTEL, 12, of Wexford with his 12-point, 186-lb. buck, above.



JERRY KALKBRENNER, 12, deer, bagged with a 30-lb. bow

Keystone W

ONE OF THE factors doubles on an individual's feeling for at which he started enjoying sports camping. It so happened that we have a number of photographs showing you deer taken in Pennsylvania seemed a good place to show and congratulate these hunters, as we didn't hear from, and wish them in the years to come.



BILL THOMAS, Rutherford Heights, above, and fine buck taken with bow. Below, Tim Johnson, 13, of South Fork and his 6-point Cambria County buck.

GARY FRANCIS, Shamokin, RI, in the 1969 archery season on G





Centerville, RD, with his first



ROBERT BENEC, 15, of Pittsburgh, and his 9-point trophy, above.

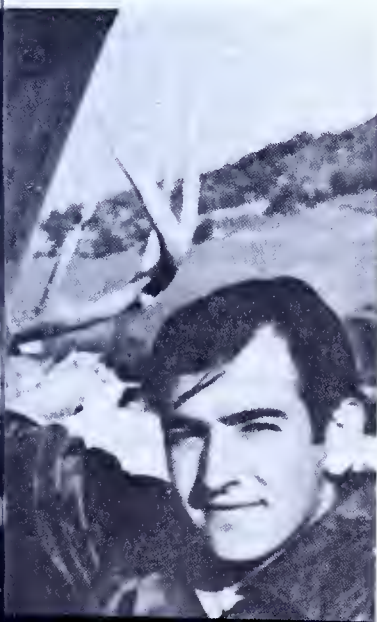
Whitetails

ess having great importance
for the outdoors is the age
ports such as hunting and
ve recently received a num-
youngsters or young adults
nia, and a center spread
y them. We want to con-
as the countless others we
m continued success afield



, with his 8-point buck taken
ven City Mountain.

RAY CREEP, 13, of York, above, with his first deer, a 10-point. Below, Randy Black, Aspers, and the 15-point, 28" spread trophy he bagged.





FIELD NOTES



Shell Saver

BERKS COUNTY—After the hustle and frustrations of a busy hunting season begin to calm, one hears the whispers of new legends and hunting feats. It seems that Jim Beltz of Hamburg, 74 years old, has finally bagged his first deer after 60 years of deer hunting. Certainly a tremendous feat of patience! Good luck next season, Jim. And from the wilds of Kutztown itself comes the legend of Russell De-Turk who, on the second Saturday of small game, tossed a stone into a brush pile in an attempt to flush a rabbit but instead mortally wounded a ring-necked pheasant.—District Game Protector J. K. Weaver, Kutztown.

Natural Food

CAMBRIA COUNTY—The heavy sleet ice on the trees on Laurel Hill Mountain brought down tons of browse for the deer. Ice was on the trees for a month before the weather warmed up and the ice left.—District Game Protector L. D. Mostoller, Johnstown.

What Next?

MERCER COUNTY—As usual, our trapping program this year produced some unusual catches, everything from cats to chipmunks and red squirrels. When we thought we'd seen everything, Deputy Okresik went to check one of his pheasant traps and found two dead pheasants and a 60-lb. dog in it. How that big dog got in such a small hole, we'll never know, and neither will the owner who paid the fine for letting his dog run out of control.—District Game Protector J. A. Badger, Mercer.

Unusual Incident

PERRY COUNTY—Following the antlerless deer season, Roy Long and Leroy Witmer of Liverpool, RD, were plowing snow in Phoutz Valley. They spotted what they thought was a dead deer in the gutter beside the road. They turned around just in time to see the deer struggle up to the road and start to make its way toward them on its hind legs. The deer "walked," if you can call it that, for a short distance, in this kangaroo fashion, then fell over and died. The men investigated and found that the deer, a button buck, had been shot through the front shoulders. They backtracked the deer and found the animal had come down through the field on its hind legs, taking steps about eight inches apart. The animal would travel about 25 feet and then fall over. This is just one more example of the strength and stamina of the white-tailed deer.—District Game Protector L. L. Everett, Newport.

We Don't Blame Them

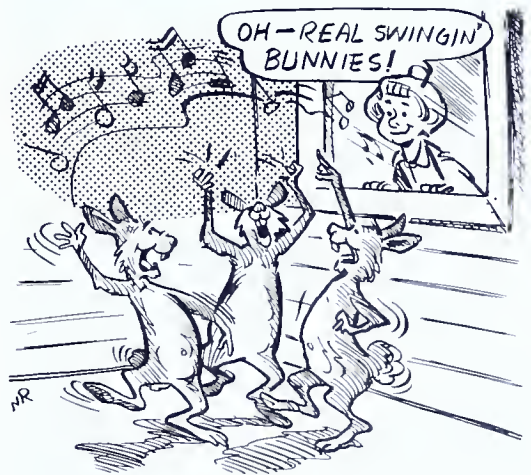
BUTLER COUNTY—Due to the extreme cold weather, this was a very good year to trap rabbits. From reports that I have received from the trapping agents, there are two cases where rabbits have gone into traps that were not even baited. My guess is that they just wanted to get in out of the cold.—District Game Protector J. D. Swigart, Butler.

Shoulda Stayed in Bed

COLUMBIA COUNTY—This past deer season I stopped along a main road to check an elderly hunter from Luzerne County. I walked up to him and asked, "How was the hunting?" He was red-faced and a little out of breath. He stared at me for a few minutes and then he started. "Warden," he said, "I've hunted these mountains going on 30 years and today I got myself lost and had a city slicker from Philadelphia show me out of the woods. As I walked down the mountain I fell, hurt my leg (which was slightly cut) and broke the stock on my new Remington 760. Farther down the mountain I had a buck, which was only 4 points but still a buck, jump out in front of me and stand for a few minutes. There I stood with a broken gun. And now here I am at my locked auto and can't find my keys. Now I have to call my wife, which will be worse than falling down the mountain, as she has been yelling all week about all the time I spend hunting. She has to bring me the extra set of keys. Warden, you asked how was the hunting. Well, I believe I've got to hang it up." While he was talking he laid his gun across the hood of his car. I asked him if he had a loaded rifle on a motor vehicle. Yep, you guessed it, when he opened the action of the rifle, out popped one cartridge. Did you ever see a grown man sit down and cry?—District Game Protector E. F. Sherlinski, Mifflinville.

All the Time, Problems

SNYDER COUNTY—One morning I stopped at Game Protector Everett's headquarters and found him running around in his long johns, sputtering like all get-out. His tale: While contacting a farmer friend about a violation, he passed a dog (no sweat) and entered the premises. But upon leaving the house accompanied by the farmer who was going to show him where the violation took place, the dog grabbed Everett by the seat of his britches and made shreds of them, scaring him almost out of what was left of them. Being a new officer, his main concern was what the supervisor would say about his new uniform pants—and what would happen if he had to get out of the car on the road home!—Land Manager I. L. Dodd, Beavertown.



Probably

MERCER COUNTY—Hep cats! How about hep rabbits? Cassius Fritz of Sheakleyville tells me about the night his neighbor's daughter was listening to her record player and looked out of the window to see three rabbits up on the porch listening to the music. They were probably doing the "Bunny Hop."—District Game Protector B. K. Ray, Sheakleyville.



Hope He Got Fleas

DAUPHIN COUNTY—The ingenuity of some Game Law violators never ceases to amaze me. Just recently my deputies and I had been trying to execute a warrant of arrest on a fellow who had been eluding us for about a week. One evening I was informed he was at his residence, and Deputy George Wert and I rushed over there. We couldn't find him. We were about finished checking out the violator's basement when Deputy Wert observed a pet dog disappear into a wood pile. His curiosity aroused, he started moving wood slabs and uncovered what looked like the entrance to an oversized dog house. He shined his light in the opening and, lo and behold, there was a human's ear. After much twisting and turning, our elusive friend wriggled out through the small opening. He then informed us that he had been hiding there on two of our previous visits to his home.—District Game Protector S. L. Opet, Millersburg.

Well, Now . . .

LEBANON COUNTY—I received a complaint about GAME NEWS from a fellow sportsman. It's not large enough!—District Game Protector P. A. Hilbert, Cleona.

We'll Do Anything to Get 'Em!

DELAWARE AND PHILADELPHIA COUNTIES—The Sun Oil Company at Marcus Hook, Pa., stated that they had sighted a deer on a cake of ice in the Delaware River. The ice, with the deer standing on it, was floating upriver on the incoming tide. One of the tugs from the launch service at the company went out and roped the deer and brought it into the dock. Deputies Newsom and Bell and I tied the deer and placed it in the trunk of my car. We then drove to a wooded area and released it. We learned later that the deer had been sighted at different places in Delaware, and the authorities there were looking for it as the tide brought it upriver into Pennsylvania where it was rescued and released.—District Game Protector R. C. Feaster, Chester.



It's Obvious, J. R.

CRAWFORD COUNTY — Had a call from a lady who saw a pheasant that was starving to death. When asked how she knew it was starving she replied, "There was a place where some seeds had fallen off of some bushes and the bird was so hungry it was eating them."—District Game Protector J. R. Miller, Meadville.

Found a Home

FRANKLIN COUNTY—Recently, while driving through the Horse Valley area of Franklin County, I saw a muskrat alongside the road. When I stopped to get a better look at it, Mr. Muskrat made a beeline under the car. The closest water in this area is about a half-mile away. I got out of the car to check on this rat and he was just sitting underneath. I moved the car forward and the muskrat moved forward. I moved the car backward and the muskrat moved backward. He didn't come from under the car until I moved it at a speed too fast for him to keep pace. For awhile, I thought he was going to set up permanent house-keeping under there. When Mr. Muskrat did move off the road he took his good old time about it and just meandered slowly down through the woods.—Land Manager D. L. Stitt, Chambersburg.

Appreciation

LEHIGH COUNTY—On January 24 the Lehigh County Federation of Sportsmen's Clubs saw fit to have an appreciation dinner for the county's Deputy Game Protectors and the Special Fish Wardens and their wives. A cocktail hour was followed by a very fine dinner served by the ladies' auxiliary of the Guthsville Rod and Gun Club. H. R. "Dutch" Wambold, outdoor writer and big game bow hunter, served as toastmaster. This event, the first of its kind, was well received. Commissioner E. J. Brooks, Assistant Chief of Law Enforcement Jerry Kirkpatrick, and Division Supervisor T. A. Reynolds and their wives were special guests from the Game Commission, while Commissioner C. J. Kern and Chief of Law Enforcement Harold Corbin were present from the Fish Commission.—District Game Protector J. R. Fagan, Allentown.



Resourceful

SNYDER COUNTY—While on patrol, I saw an elderly hunter using a walking stick and stopped to chat with him. About the first thing I noticed was two leather straps attached to his walking stick. In these straps were two rods hanging parallel to the cane. One looked like a rifle cleaning rod, the other about the size of a pistol cleaning rod. Finally, my curiosity being what it is, I asked what the rods were for. The man explained that sometimes his shell cases stuck in the gun and he used the long one to push them out. Also from time to time a case would split and part of it would stay in the chamber. Then the short one came into play. It had a screw-like affair on the end and he would screw it into the remaining part of the case and remove it from the chamber saving many long trips back to the car.—District Game Protector J. P. Shook, McClure.

Keep 'Em Home

NORTHAMPTON COUNTY—Throughout Northampton County, I have been receiving reports of stray dogs running at large. With the snow and very cold weather, many of our game species have some difficulty getting around and become easy prey for dogs.—District Game Protector R. W. Anderson, Nazareth.



Just Part of the Job

CUMBERLAND COUNTY—On the second day of the antlered deer season I had stopped at one of the Penn State deer check stations in the South Mountain area near Pine Grove Furnace. While there a hunter stopped with a spike buck. As I was examining its teeth to determine its age, I noticed that a small piece of lead was lodged in an indenture of a pre-molar, and was worn smooth with the surface of the tooth. As I was picking at it with the point of my knife, one of the students present noticed it and asked what it was. I jokingly replied, "A filling." I filled out a deer examination record and told the hunter, who had been patiently and quietly standing by, that his deer was four and one-half years old. He thanked me and then somewhat skeptically stated that he knew the Game Commission was very interested in taking care of the deer, but he hadn't realized how interested! District Game Protector D. R. Smith, Shippensburg.

Good News

CAMBRIA COUNTY—In northern Cambria County the turkeys seem to be prospering even though the weather has been rather severe all winter.—District Game Protector E. N. Galloway, Ebensburg.

Know a Good Thing

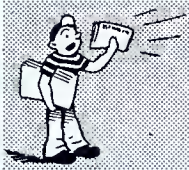
NORTHUMBERLAND COUNTY—Mrs. Claude Clayberger told me that her bread man serves a meal each morning to three hungry rabbits. It seems that he saw these rabbits sitting along the road one morning and threw them some bread. The next day they were there and have been each morning for the past several weeks. Probably they are wondering when the sweet rolls are coming.—District Game Protector C. E. Laubaeh, Elysburg.

Do It Yourself Kit

GREENE COUNTY — A friend stopped over to see me recently and continuously talked about the fur outfit he had bought for his wife this past Christmas. After a period of time had passed and my friend still kept talking about the fur outfit and how inexpensive it was, I became curious and asked what kind of fur it was. Then came his explanation. The "fur outfit" consisted of the following: one dozen Blake and Lamb muskrat traps and a Pennsylvania hunting license.—District Game Protector R. W. Oliver, Rieses Landing.

Who's Whose Best Friend?

FOREST COUNTY—Every year at the end of the hunting season and the beginning of a new year for dog licenses, we have a problem. For some dog lovers, love seems to fade with the prospects of waiting ten months to hunt, knowing they still have to purchase a license and feed the animal. So what else to do? Take the dog into the country and dump it to forage for itself. That's the solution for many. Kind of makes you wonder about being a "people."—District Game Protector D. W. Grose, Marienville.



CONSERVATION NEWS



Pennsylvania Hunters Report Taking 295 Bears

PENNSYLVANIA'S bear hunters reported harvesting 295 bruins during the 1969 season, the Pennsylvania Game Commission announced.

The 1969 harvest represents an increase over the 218 bears taken in 1968, but there was a six-day season two years ago compared to a two-day season this past year. The Game Commission established a short season in 1969 after an apparent decline in the bruin population in the northcentral part of the state, the bear's primary range.

Harvest figures for the past year seem to bear out the Game Commission's pre-season assessment of the supply, which showed normal bruin populations in sections of the state other than the northcentral. Hunters reported taking 131 bears in the northcentral area in 1969 and 121 in the northeastern part of the Commonwealth.

In the past, about 60 percent of the total harvest normally came from the northcentral.

In 1969 Pike County led the state in bear harvest with 45, while 30 were reported taken in Clinton County and 28 in Lycoming County. In 1968 Cameron and Elk Counties each produced 21 bears and McKean had 20 to top the list.

Game Commission officials looked with favor on the sex ratio of bears taken this past season. There were 171 males tagged, compared to 124 females. Since female bears reproduce only every other year, and are at least three years old before giving birth to their first cubs, bruin populations build up much more slowly than other wildlife species.

Resident hunters tagged 268 of last year's bears, while 27 nonresidents scored on bruins.

Reports from field officers of the Game Commission during the two-day 1969 season indicated that there were many more hunters afield than are normally found in bear season, and the increased hunting pressure is believed to be largely responsible for the past season's harvest being higher than in the previous year.



JOHNNY McCAHAN of Tyrone with the 175-lb. bear he bagged in Blair County in 1969 in his first season of hunting. Johnny is just 12 years old!

A Year's Road Kills

By Rep. George W. "Heap" Alexander

During many trips back and forth from Clarion to Harrisburg over the past seven years, a distance of about 200 miles one way, and considerable other travel in Pennsylvania, I have observed so much road-killed game of various species that I decided to keep a full year's count. Throughout all of 1969 I kept, as accurately as possible, a complete check on dead game and birds seen while traveling on Pennsylvania highways. To me the result was rather astounding. Here is the 1969 box score:—

Rabbits	916
Opossums	520
Songbirds	497
Skunks	495
Woodchucks	492
Raccoons	377
Squirrels	253
Pheasants	107
Porcupines	69
Deer	55
Foxes	18
Grouse	11
Muskrats	7
Weasel	1
Mink	1
Unidentified	506
Total	4325

When you decide to really check and count birds and animals hit by cars on the highway you learn a few facts. The species of game killed naturally varies by time of year. Cold weather months completely make nil any count on species such as wood-

chucks. The count on rabbits runs high during their long breeding season. Squirrel kill is highest in the fall when they travel in search of food. Pheasant count shown was practically 100 percent in counties near Harrisburg where the pheasant population is high. The main reason for the high unidentified count is simply that in today's high-speed highway traffic one does not always have time to observe closely; you know what you see is a dead bird or animal, but a quick glance doesn't allow proper identification.

Also, when making such a year-around count one learns where to watch. A great percentage of dead birds and animals was on the berms, not the road itself.

It should also be kept in mind that such a count, though made as accurately as possible, never can take into account the bird and animal life that either flies or crawls to death out of sight.

Early morning usually brings the highest count. This is understandable because highway crews have not had time to remove the dead wildlife.

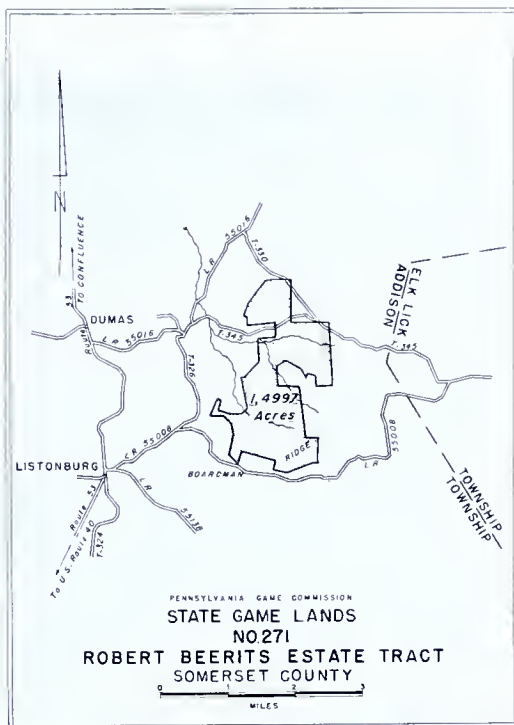
So when you think of game in terms of abundance or scarcity, remember that game and bird populations are not determined only by hunting pressure, predators, cover, and food. The millions of cars and trucks on Pennsylvania highways take a yearly toll of our animals and birds that, statewide, borders on the unbelievable. But it's true.

Wild Whoopers

Wild whooping cranes are believed to mate for life. Young grow rapidly and are ready for their first flights in about 90 days.

New Game Lands

A new State Game Lands, No. 271, comprising just under 1500 acres, has been added to the open acreage available to Pennsylvania hunters. Located in Somerset County, this area is generally mountainous, with some rolling and fairly level mountaintop land. Timber is predominantly oak, red maple, black cherry and tulip poplar. Deer, grouse and squirrels are found here in good numbers. There is excellent access via macadam roads. Streams include two small tributaries to Glade Run and there are several springs. Timber roads which traverse the area can be used as hiking trails at present, and are expected to be seeded to food strips in the future. The area is open to others besides hunters.



DISTRICT GAME PROTECTOR J. R. Fagan tells youngsters about barn owl during a conservation meeting at the Roosevelt School in Allentown.



DENNIS SOURBEER, Canton, proudly displays the wild turkey gobble he bagged in Sullivan County last season. It weighed 18½ pounds.

Aw, Come On, Now

The anablep, a fish that lives on the surface of the water, has eyes split in half. It sees other fish below and the birds above in one continuous picture.

Not Real Big

Male minks measure from 20 to 28 inches in length and weigh from 1½ to 3 pounds.

Game-Killing Ring Broken in Central Pennsylvania

OPEN BRAGGING by the offenders over an extended period of time and an intensive investigation by conservation officers from September through January have led to the arrest of eleven central Pennsylvania men for illegal killing, selling and possession of game.

Officers said the base of operations for the group was in Union County, but a number of Game Law violations occurred in eastern Centre County. The offenders were from the Mifflinburg-Lewisburg-Turbotville area.

Fines totaling \$5,425 were levied in the case, and several defendants were jailed following failure to pay the penalties.

Members of the group were charged with selling deer, possessing deer out of season, possessing deer unlawfully taken, using an artificial light to take deer at night, using an artificial light to take pheasants at night and attempting to take a second deer in

close season.

Two illegal devices, an autoloading 22-caliber rifle and a shotgun loaded with fine shot, were used for killing deer, according to officers. A number of whitetails, shot with the light caliber rifle, were either wounded or killed without any attempt to recover the carcasses.

All offenders face future loss of hunting license privileges. Two of the men had their licenses revoked previously for infractions of the Game Law.

A number of Game Commission officers were involved in the investigation, headed by Northcentral Field Division Law Enforcement Assistant Vern Van Order, Union County Game Protector John Shuler and Centre County Game Protector Albert Kriefski, in cooperation with Centre County District Attorney Charles Brown and Union County District Attorney Thomas Wilson.

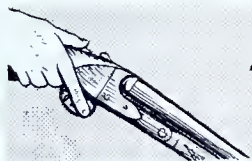
Taxidermy Examination in June

The 34th annual taxidermy examination will be given Tuesday, June 23, beginning at 10 a.m. at the Pennsylvania Game Commission's Southcentral Field Division Office, RD 1, Huntingdon. Any person desiring to take the examination should make application by May 15 either to the Harrisburg office of the Game Commission or through his local District Game Protector.

All eligible applicants must be at least 21 years of age and must present six specimens mounted by themselves to the Taxidermy Examining Board at the time of the exam. The specimens must include the following: one deer or bear head (preferably a deer head); one small mammal (any species); one upland game bird; one duck or other waterfowl; one hawk or owl; and one fish or reptile.

Current Hunting Licenses Still Available

Unsold 1969-70 Pennsylvania hunting licenses have been returned by license issuing agents to the State Department of Revenue, but licenses can still be purchased by sportsmen. They are available from any county treasurer's office in the state. Licenses can also be purchased from the Miscellaneous License Division, Department of Revenue, 24 South Fourth Street, Harrisburg, Pa. 17127.



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



KDKA GENERAL MANAGER Bill Hartman receives Hunter Safety Award from Commissioner James Thompson as Jerry Johnson and Jack Bogut look on.

KDKA Safe Hunting Contest

“WHEN YOU STAND on a deer watch, tie orange crepe paper around the nearest tree to alert other hunters of your position.”

This was one of the many timely good tips on safe hunting and hunting tips broadcast over the KDKA air waves by the familiar voice of announcer Jack Bogut during the first three weeks of Pennsylvania's last small game season. The tips were submitted by hundreds of western Pennsylvanians on request of the radio station and was in the form of a contest. At the end of the contest one of

the letters was drawn and the winner received many valuable hunting gifts. A letter submitted by Jack Mitchell, RD 1, Seneca, Pa., was drawn as the prize winner. He was awarded a shotgun, binoculars, hunting boots, leather gun case and a gun cleaning outfit. Mr. Mitchell was then permitted to pick a “hunting buddy,” who also received similar gifts. Mr. Mitchell picked Larry Beverage of Kersey, Pa., as his hunting buddy. Both men were then treated to a day's hunting at Nemacolin regulated shooting grounds near Uniontown.

Mr. Mitchell's letter follows:

Dear Mr. Bogut:

Fifteen years ago, I became my uncle's "tag-along" during small game season. At that time each hunting trip was an exciting new adventure; and now that I am older, I can realize that each experience was rapidly building a bond of respect and trust between my uncle and me that I still cherish today.

Through his patience and wise teaching he opened to me a magnificent, new, never-to-be-forgotten world of hunting. While he made me feel as though I were king of the woods to reign forever, I now understand that I too gave him something which every adult needs. Through me, he could become a child again and relive adventures that were then only memories to him.

The point that I would like to pass on is that hunting is not just a sport that a man suddenly decides to enjoy; it is a feeling, a love, a small part of every male that is waiting to be brought out and shared with someone older and wiser—be it an uncle and nephew, a father and son, or a friend and friend. To a small boy the woods is another world of the unknown yet to be explored; it can be a big, beautiful captivating world or an awesome world filled with frightening noises and dark shadows.

Too often, a young boy on his first hunting trip, having his real first contact with the woods, is left alone on a crossing or a tree stump while other

members of the hunting party wander off to "scare up" the game. Alone with himself and his imagination, the hoot of an owl can become the cry of a ghost, the falling of an acorn can be the lurking of a stranger in the bushes, and even the delightful chattering of the squirrels can become the chattering of his own teeth. This imaginative little boy can pose a real threat to himself and others in the area for he will soon be prompted to shoot at the slightest sound or movement or become hopelessly lost trying to find those who thoughtlessly left him behind.

A boy needs to be taught the mysteries of the woods, to become a part of this environment, to learn that here is an atmosphere of peace and wonder to be respected and enjoyed. Only then will he be ready to hunt alone, becoming another great and mighty hunter.

Sincerely,
JACK S. MITCHELL
RD 1
Seneca, Pa.

This program came about through the efforts of Jack Bogut and Jerry Johnson, and with the interest of Bill Hartman, general manager of KDKA. For providing this timely public service to the thousands of western Pennsylvania hunters, the Pennsylvania Game Commission's Hunter Safety Award was presented to KDKA by Commissioner James Thompson of Pittsburgh. A fine tribute to a radio station that celebrates its 50th anniversary this year.

Think Orange

Safety experts readily agree on one subject—it's advisable to wear fluorescent orange while hunting. Statistics from all states and provinces show that wearing of safety-colored clothing results in reduction of accidents. It is every hunter's responsibility to see and be seen. Set an example for your fellow sportsmen by wearing fluorescent orange when afield. It is the easiest color seen under poor light conditions.

Don't waste sympathy on the "blind bat or mole." Sight for them would be no blessing. For so many eons they have carried on their life cycles in the dark that active eyes would be just a nuisance. The best of eyes would see nothing in pitch blackness such as exists in a bat cave. And a mole, plowing face first through soil, would be in constant pain . . . remember that cinder in your eye.

Moles and Bats . . .

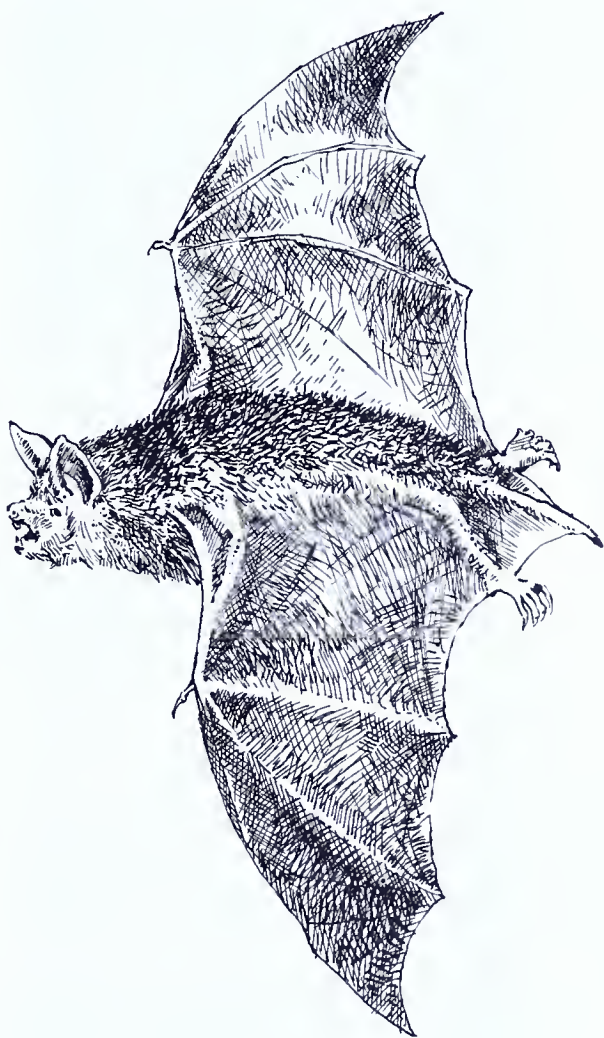
Their Blindness Is No Bane

By Carsten Ahrens

AUNT MAGGIE had a garden whose scarlet, green, yellow and purple treasures found their way to many a friend's table. They gave Auntie credit for being a great gardener; actually she was a tireless trapper. Aunt Maggie's Eden had its interlopers: eastern moles, sausage-shaped animals perhaps six inches long, plus a naked tail of an additional inch.

One of the rascals might tunnel overnight the full width of the garden's 200 feet. Auntie insisted that they didn't burrow but "swam." The animal's front legs are like short but very strong paddles and they're fitted with broad nails. While the forelegs part the earth in front, small yet powerful hind limbs push the beast forward. In the meantime the nose or snout and the mouth endeavor to grab food: any small invertebrates, especially the earthworms.

The animal seems to have one all-consuming passion: food. Day and night, winter and summer, its digging for calories goes on. The mole does not take time off, as the bat does, to hibernate. Deeper tunnels for winter use are actually gouged out by the big nails. The loose earth is piled up in the well-known molehills. But for foodgetting, the mole makes a shallow dive, its stout paddles meet in front of its sensitive nose, and with repeated swimming strokes and sturdy



Illustrations by Karin DeStefano.



THE MOLE BELONGS TO the order Insectivora, which means "insect eaters." Their closest relatives, the shrews, include the smallest mammals.

help from the rear, it inches along, leaving a ridge of raised earth as a sign of its passing.

Here's where Auntie placed the curiously constructed mole traps, so unlike my rat traps. They straddle the tunnels and a mole is caught when it comes to repair the break in the heaved-up network of passageways.

If a mole's progress led it along a row of developing lettuce, its swimming movements sheared off their roots and the plants toppled over. It wasn't of course, the mole's intent to injure the greenery; it's strictly carnivorous. It wanted only the wireworms, earthworms, cutworms or any other subterranean creatures that were there first.

Not only are a mole's eyes almost nonexistent, little more than pinpoints in slight pigmented areas, but it also seems to have no neck and only suggestions of ears. The latter would just be in the way, if present. There are internal ears which respond to earth vibrations.

Nest of Moles

One spring while digging a trench, I brought up a nest of five tiny, reddish, naked baby moles. I tried to reconstruct the nest nearby, hoping the mother would locate the litter. But it didn't work.

Aunt Maggie's terrier would occasionally dig out and kill a mole, but it would never regard its victim as something to eat.

Aunt Maggie found moles troublesome, but she regarded bats as impossible. So when the swallows stopped their graceful daylong circling after diurnal insects and the bats took over after nocturnal insects in their erratic flight, Auntie cast apprehensive glances at the darkling sky. Her sun-bonnet, worn to prevent freckling, remained on while she did the evening chores. No one she knew had ever actually had a bat entangled in her hair, but Aunt Maggie was taking no chances.

Although bats are closely related to the order to which the moles belong, their possession of true flight—the only mammals that have it—makes them unique. Flight for them is possible because their forelimbs are strangely modified. The four finger bones are greatly elongated and form when extended a frame for the membrane that composes the wing. Our little brown bat has a wingspread of some ten inches. I wonder what Auntie would have thought (and how she would have whooped!) if the tropical bats known as "flying foxes" had invaded her farmstead. These fruit bats have a wingspread of between five and six feet!

Our little brown bat, like the mole, has tiny eyes. The old expression, "blind as a bat," meaning wholly blind, isn't true, for a bat's eyes admit light. But the bat has long depended upon its prominent ears and a built-in radar system that can pick up the

echoes of its own clicking sounds to somehow guide him around obstacles even in complete darkness.

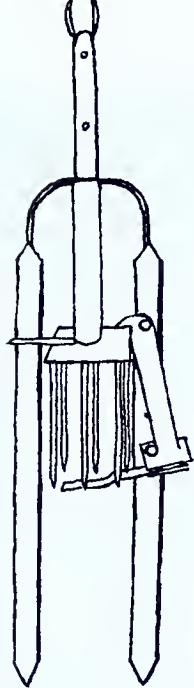
One summer our class studied on a Lake Erie island where an empty "castle" stood. Its high tower was inhabited by bats that each day attached themselves in the dim stairway section below the tower room where a broken pane allowed their entry. We tried the old experiment of making the upper room a maze of crossed and recrossed strings with tiny bells attached. Although hundreds of bats passed through the tower twice a day, no bat barged into a string, no bat rang a bell.

Unlike moles, the bats have poorly developed hind limbs. They are not used for walking, but the curved claws serve as hooks to hold the animals as they hang, heads downward, during the daylong sleep and the months-long hibernation period.

It is in the spring, after hibernation, that the females give birth to a single offspring. At first the baby, clinging to its mother, accompanies her on the nocturnal search for food, but soon

THIS IS THE TYPE of device used by many homeowners to eliminate moles.

the size of the young one makes that impossible. So it remains in the cave until its own wings are ready for use, and then it joins the flight and quite unintentionally disturbs the good Aunt Maggies all over the country!

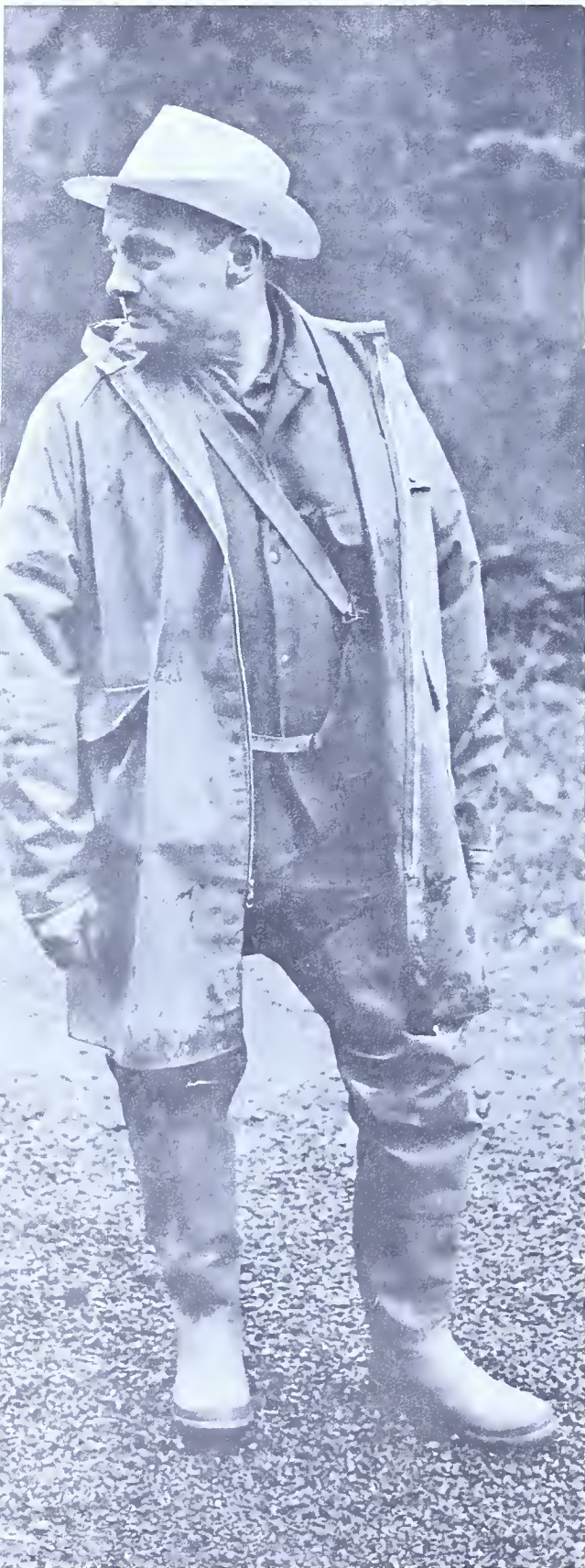


Ducks Unlimited Regional Changes

The formation of a new field region is the latest operational growth program of Ducks Unlimited, Inc., the pioneering waterfowl conservation agency. The Atlantic Region, which previously encompassed the 17 states of the Atlantic waterfowl flyway, is being divided into two operational regions; the realignment is designed to provide increased and more efficient staff services to the many Ducks Unlimited volunteer committees in these states.

The new South Atlantic Region is composed of seven states—Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia and Florida, plus the District of Columbia. Ten states now form the North Atlantic Region; these include Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, New Jersey and Delaware.

Over 40,000 sportsmen of action supported DU's important conservation programs during 1969, contributing a total of \$2,000,000 to be utilized in building, rehabilitating and preserving important wetlands in Canada's "duck country" regions, which produce four out of five North American ducks. During '69, DU (Canada) completed 40 project programs, with total area of almost 120,000 acres, bringing the 32-year Ducks Unlimited total to well over 1.6 million acres of waterfowl habitat. Anyone wishing to help can send a contribution to Ducks Unlimited, P. O. Box 66300-D, Chicago, Ill. 60666.



*It's Much More Comfortable
Outdoors if You . . .*

STAY DRY

By Les Rountree

SOONER OR LATER, if you spend much time camping, you're going to have to set up in the rain. You'll probably get something wet, but that something doesn't have to be you if rain gear is included in your duffle. For some strange reason it seems to take a number of good solid drenchings before this wisdom sets in. When a soggy day befalls the camper or other outdoor type he usually discovers that his rain jacket or coat is somewhere other than where he hap-

A LIGHTWEIGHT, thigh-length, water-proof parka combined with hip boots and a treated wide-brim hat make an outdoorsman impervious to rain.

pens to be. The moral is, of course, buy a practical outdoor rain garment and carry it with you . . . at all times and especially when you are going camping. A little moisture on your face or hands will dry off quickly enough, but when your clothes are soaked through to your underwear, a happy camper, you are not.

GI Raincoat

For many years my standard rainwear was an Army raincoat. It was one of the best things that Uncle Sam ever provided me with and it's still going strong after almost 20 years. It's hot and uncomfortable during a warm summer shower, particularly if you're engaged in any strenuous activity, but it does shed water. The GI raincoats and the popular "slicker suits" are made from the same two materials. They consist of a cotton base that has been coated with real or synthetic rubber. They work. But they have some drawbacks too. They are usually heavy, noisy (a consideration for hunters) and if they are stored in hot, dry places they crack in a short time. If kept in a cool and moderately humid storage area they'll last for years. They do shed water and nothing else is quite so good. They don't damage easily for ordinary wear and are still the standard material used by the armed services and many police and fire departments. Most of the commercial fishermen who work the high seas wear them also, since not only do they turn the water but they also serve as effective windbreakers.

Rubberized slickers can be had in all lengths, from short jackets to ankle-length capes. Suits are avail-

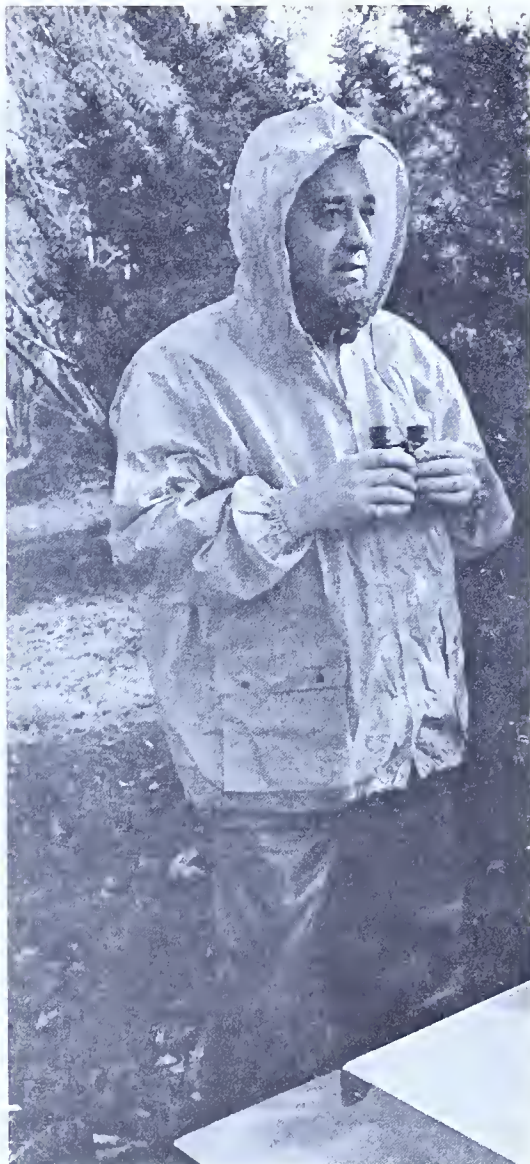


PLASTIC TRASH BAGS, which can be purchased inexpensively, make fine emergency raincoats for youngsters — and grownups, too, on occasion.

able too, and the pants provide sit-down and kneeling protection. You may feel like Mickey Mouse in one of those overall outfits, but you will stay dry.

While some slicker suits and jackets will be sold to today's campers, the more style conscious outdoorsman wants something a bit less bulky. The heavy rubber coated outfit is not the ticket for the camper who places space at a premium for his outings. You can't stick enough slicker suits into a small space, and putting one in the back of your hunting coat or fishing vest just doesn't work out. Modern technology comes to the rescue. The newer rip-stop nylon shells that have a tough sprayed-on vinyl or rubberized coating solve the weight problem. The most popular color for these garments is forest green, but a bright orange one—the only one of this color I know of—is available from L. L. Bean in Freeport, Maine. It's just the ticket for the rainy day deer hunter, or any other hunter for that matter. They won't stand up against barbed-wire fences or tough blackberry briars, but they are a bit more durable than they look. My only objection to all rain suits for hunting is that they are noisy. For the still





FEATHERWEIGHT PARKAS of plastic or treated nylon take up little room in the pack but are indispensable when the weather turns bad.

hunter the annoying rustling sound will spook game on a wet day . . . but you will stay dry.

The inexpensive transparent raincoats have a place too. They won't last very long under severe use, but they will save the day at times and they are extremely light in weight. I have several of these 99-cent specials and stuff them into the pockets of practically every outdoor garment that I own. If I absolutely know that I'm going to be out in the rain for an extended stay, I take along something more durable. But that's the

heck of it. Most of us are not good weather forecasters (and neither are the professional weathermen at times) so we should carry some dry insurance with us as regular equipment. At least have one in your car trunk or trailer.

Speaking of emergency gear, don't be too proud to use an old-fashioned umbrella. The big black so-called "executive type" umbrella can be most handy when trying to start a fire or fry eggs on a gasoline stove. You may feel a little silly, but at least the eggs won't be diluted with rainwater.

I'm indebted to Mrs. Richard Hetrick, a regular GAME NEWS reader, for another good tip concerning emergency gear. It seems that the Hetricks have a number of small fry in their camping family who are constantly outgrowing their clothes. She solved the problem by taking the dark-green trash bags that so many people are using these days and slicing out head and arm holes. I tried the idea and it works. A dozen emergency raincoats of this type cost about a dollar and you can throw them away when they get ripped—or better yet you can tie up the holes and use them for what they were originally intended. I believe I said it before in this column, but I have to say it again . . . what did we ever do before plastic bags were invented?

World War II Poncho

Another good item that's sometimes available at surplus stores is the old World War II poncho. These are nothing more than a five-foot square piece of rubber-coated fabric with a hole in the middle for your head. They work fine in a serious downpour and can double as a lean-to or a small tent fly. The big advantage is good ventilation and mobility. Several companies offer commercial versions of the old army job and they're just as good except they cost slightly more. The last time I priced a surplus poncho it was \$2.50.

Any type of outdoor clothing should be fitted a bit on the generous side. All kinds of camping and hunting activities require that you move about and tight form-fitting apparel, while stylish, may not be very comfortable when the day is over. This is doubly so with rain gear. It's usually put on over other clothing and just getting it on can be a problem if it isn't large enough.

Hat or Hood

In the hat department, practically anything will work for a light shower. An old felt hat is fine up to a point, but during a really serious downpour something a bit more substantial is called for. Again, the rubber slicker style hat is best of all. Most of the modern rain jackets have a hood attached that answers the need perfectly since you don't have to remember to bring along an extra piece of gear. Most of these work okay, but try out the hood before you lay down your money for a particular jacket. The hoods on some of these are far too skimpy and unless you have no neck at all and your head is the size of a grapefruit, you'll feel a little cramped. The better jackets have an ample hood with a drawstring that can be snugged up around your face, offering good foul weather protection. The hood can be used over top of the billed cap which definitely should be worn if you wear glasses. Since they have yet to design a pair of eyeglass windshield wipers, the cap will keep part of the rain from dripping down your forehead onto the glass. Fogging eyeglasses on damp or cold days can be helped by washing your glasses with soap and leaving some of the soapy film on them when they are dried. A very light soapy film will not obstruct vision and it works wonders.

Last October we talked about foot-gear and a point from that column is worth repeating this month—that being that nothing will keep your feet absolutely dry except rubber. You might feel silly sloshing around during

a summertime camping trip with heavy rubber hunting boots, but they will keep your feet dry. A better answer would be a pair of the lightweight slip-on boots that sell under a variety of trade names for about three dollars per pair. They are very light and take up a minimum of space in the duffle bag. Another good thing to remember about keeping feet dry is



THE MOST USEFUL rain jackets have wrist-gripping sleeves and hoods that can be sealed around the face to keep water out.

not to tuck pants into the tops of your boots. If the trousers get wet the excess moisture will simply run down into the boot and the feet will get wetter . . . sooner. I'll probably get letters about this, but I never could understand why the knit-bottom style hunting pants ever were made in the first place. They always pull out after a few steps and if you happen to get rained upon, the feet are bound to get wet before anything else does. Leave the trousers outside the boots and the water will drip off the bottoms.

Here I go on plastic bags again, but it sure is convenient to have a good supply of them along during a

wet spell. You can wrap your camera in one and the film too. Firearms, toilet tissue and a lot of food items that moisture will ruin can be easily kept dry with a minimum of expense. After the rain, of course, get the metal objects out of the bags so the condensing moisture doesn't have a chance to form rust.

Your other gear will also need some care after a rain-punctuated camping



RAIN CAPES OR JACKETS of extremely light plastic can be folded into a package small enough to go in a hip pocket, weigh practically nothing.

session. All tents and other canvas gear should be dried out completely before storage and if the campsite was a muddy one you may have to do some scrubbing. Throwing wet dirty gear into the corner of the ga-

rage may be the quickest thing to do when you return home, but you'll pay dearly for it. Mildew, rot and the accompanying odor will not make for a happy trip next time.

Good maintenance is necessary with wet weather clothing too. Make sure it is completely dry before you put it away and if there are any holes, patch them up. The lightweight nylon material can be patched with the sticky fabric tape that's available at most five and ten stores, while the rubber slicker suits can be patched just like an old inner tube with one of the repair kits from an auto supply store.

A final tip about wet weather camping is get out of wet clothing as soon as you can. Even with good rain gear, something is bound to get wet and the sooner you can get into warm, dry clothing, the better you'll feel. Nothing beats a good warm sweater or sweatshirt after you've been cold and clammy. The whole trip looks better too, when dry clothes are on your back.

I once spent a solid week at a campsite that never saw a sunshiny day. I practically lived in my old GI raincoat and a pair of rubber hipboots. There were some inconveniences to be sure, but the sound of the rain on the camper roof made for good sleeping and we had a great time in spite of the weather. Rainy days won't wash out your camping trip, if you make some advance plans to take care of them.

Except When They Hurry?

Polar bears, which have been sighted 80 miles out to sea, swim only with their forelegs. Their hindlegs extend straight back and are motionless.

If It Only Had a Guitar!

The "walking catfish," a native of Southeast Asia, can remain dormant in summer, hibernate in winter and walk over land.

Crossbow at the Crossroad

By Keith C. Schuyler

Photos From the Author

IT WAS THE last day of the Nationals in the final events of the two greatest weeks of archery in America since the last big Indian war. My cameras were still sweating from exertion at the target finale when I noticed a small knot of white-clad figures at the far west end of the shooting line. As I approached along the well-worn shooting line at Valley Forge, I was met by Fred Isles, president of the National Crossbow Association.

Fred, who hails from Cranford, N. J., led the way and introduced me to the group. Crossbows in evidence provided a clue to the activity, but size of the group provided no more than a hint to the total enthusiasm of the members.

Since it has long been a personal desire to present something here on the ancient art of crossbow shooting, this meeting provided a special opportunity. Few archers in Pennsylvania have more than a passing acquaintance with the sport, yet no study of archery fails to give prominent mention to this deadly and accurate arm.

Lack of widespread interest here and elsewhere can be largely attributed to the fact that relatively few states permit use of the crossbow for hunting. And nothing in this column should be construed to encourage such use in the Commonwealth. Nevertheless, every archer should be informed on this aspect of archery if only to know that a crossbow was used by the mythical William Tell to shoot an apple from his son's head.

Watching George Gurik, of Moline, Ill., one might be inclined to believe the myth. George, with his homemade bow, took two out of the three events at Valley Forge to win handily among the men. He won the Quadruple Amer-



GEORGE GURIK, national crossbow champion, demonstrates the position he uses in the Clout shoot.

ican Round with a 2866 to best George Hall, of Somerville, N. J., by 137 points. Hall moved in on him in the International Round to post a 774 to Gurik's 802. And Fred Isles claimed the Clout with a 278 followed by Gurik with 270.

In the ladies' division, Ann Neill of Cape May Court House, N. J., took the national championship with a 2040 to post 614 more points than her nearest competitor.



STRING OF MODERN tournament crossbow is drawn by hand. Some early models used in warfare and for hunting needed mechanical assistance.

However, crossbow scores have little meaning to the average archer. It is more a fascination with the tackle used which arouses interest. Nevertheless, when target performance is compared with that of more conventional archery tackle, scores take on more substance. Add to this the fact that most top crossbowmen make all their shooting tackle, and you have at least an invitation to curiosity.

National Crossbowmen of the United States of America constitutes a division of the National Archery Association. Members are pledged to perpetuate, foster and direct the practice of crossbow archery in accordance with official rules and the spirit and the tradition of this ancient sport. Members shoot alongside, but not in competition with, conventional bow-

men in all their tournaments and in all rounds. However, at all distances, a target only one-half the diameter of the 48-inch regulation archery target is used. Scores by the better shooters with each type of tackle are roughly equivalent.

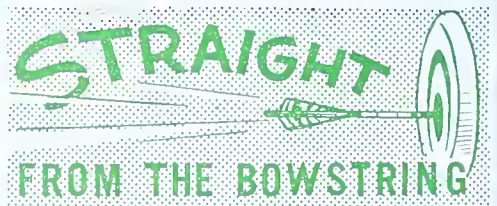
Hand Drawn

Crossbows used in tournament shooting are all hand drawn. Those made today usually employ either solid or laminated Fiberglas. Weights are between 50 and 80 pounds and draws are from 16 to 20 inches. Velocities are reported roughly 25 percent faster than that of the more conventional tackle. This difference can be attributed to the smaller arrows used in crossbows.

Arrows are about half the length of regular shafts. They differ little otherwise, since they may be made of wood, Fiberglas or aluminum tubing. Either feathers or plastic vanes are utilized. For example, Champion George Gurik uses regular 20-20 Easton aluminum shafts cut off to match his crossbow. The only obvious difference is at the string end; crossbow arrows have no nocks.

Bows used in the national tournament are hand-drawn in the sense that no mechanical aid is employed in drawing the string to the trigger notch. Although basically the modern crossbow is an adaptation of the ancient weapon, modern materials for construction give today's crossbowmen somewhat the same advantages enjoyed by conventional bowmen.

It is an unusual revelation when researching the crossbow to find that information on the weapon of yore is more easily acquired than on its contemporary counterpart. Although nu-



merous articles and references are available, the only definitive book I have been able to find is, appropriately enough, *The Crossbow*, by Sir Ralph Payne-Gallwey. However, membership, and presumably current information, may be obtained by sending a dollar yearly dues to the secretary-treasurer, Mrs. Murvil H. Brumble, of The National Crossbowmen of the U. S. A., 3658 Epworth Avenue, Cincinnati, Ohio 45211. This organization is apparently concerned primarily with target shooting. It is not necessary that you own a crossbow in order to join the association.

The American Crossbow Association appears to have its heart in Huntsville, Ark., where the accent leans toward the hunting sport. Considerable promotion was done by a retired artist, George M. Stevens, who won the national tournament in 1952. The ACA was formed in 1954 largely through his efforts.

What will happen to crossbow shooting in this country is anybody's guess at this point. It is a personal opinion that it will *not* be widely accepted for hunting in its present status. The more conventional bow hunting sport had a rough time establishing itself in many states. Nevertheless, the crossbow has earned itself an important spot in both ancient and contemporary history. The effort here is primarily to accord it recognition as a part of archery which has possibly been neglected in relation to potential current interest and its firm place in history.

Origin Unknown

Although actual origin of the crossbow is shrouded in antiquity, it pops up at frequent intervals as both a sporting arm and a weapon of war. It had its limitations in both categories. Its greatest advantage over the longbow in military use appeared to be primarily in the fact that it could be shot through small openings with minimum exposure to the crossbowman. Later, more powerful crossbows provided greater penetrating power and

could be shot accurately at longer distances than the longbows.

Some veteran crossbowmen will tell you that objections to the crossbow as a hunting arm stem from some of the earliest history. Wounds from a bolt or quarrel were considered so hideous that the church in the year 1139 forbade the crossbow as a weapon hateful to God and unfit for



CROSSBOW ARROWS are about half the length of those used with conventional equipment. They differ further by having no nock.

Christians. Excommunication was a penalty. Pope Innocent III backed up the earlier edict, and Conrad III of Germany also prohibited its use at about the same time in his army and kingdom. Richard I of England later employed crossbowmen in the same century. When he was killed by a bolt from a crossbow, it was taken as a judgment from heaven for permitting use of the weapon.

Later history indicates that the crossbow came into favor as a military arm, but it was unable to overcome the superior firepower and range of the English longbow in the early years. Even when steel replaced wood as the power plant in the bow, the extra time required to draw the weapon reduced the advantage of superior range.



Although the targets used in crossbow matches are only half the size of those used with longbows, scores are roughly equivalent.

As a hunting arm, accuracy of the crossbow as well as its adaptability in shooting from concealment gave it some advantages, particularly in hunting deer. The hunter could shoot from any position. And the more powerful bows could discharge deadly bolts.

As crossbows became more powerful, particularly after steel came into use, means other than the strength of arm had to be found to draw the string. At first, the front of the bow was rested on the ground and the string was pulled into position by hand. Then a stirrup was added so that the foot could be placed into it, and added strength could be imparted by the leg. Later adaptations included a device known as a *cranequin*. This was a ratchet arrangement similar to that used on a modern automobile jack. Still another assist was a gadget known as a *goat's foot*, so named because of its resemblance to that part of the animal. It operated on the lever principle in that a hook or hooks caught the string and brought it into position as the lever was brought from

the vertical back against the stock of the crossbow. Yet another device was a *windlass* which permitted the string to be wound into position as one would crank a bucket of water from a well.

It is obvious from even these brief descriptions that cocking a crossbow was time-consuming. Add to this the weight, which would be from 10 to 14 pounds without a cocking device, in the case of a sporting crossbow used to hunt deer, and the poor hunter had compounding disadvantages. The cocking device, carried on the person, was additional weight. Military crossbows weighed as much as 16 pounds without the windlass.

Hunting bolts, as they were generally called, weighed about 2½ ounces and were about 12 inches in length. Military bolts were as much as 3 ounces in weight.

Bolt and Quarrel

Although the terms "bolt" and "quarrel" were used rather loosely as the name for the projectile which is simply called an arrow today, there was a definable difference. A bolt was actually a miniature adaptation of the arrow. It was short and stocky, generally with two vanes or fletching, with a rather heavy metal head shaped in a manner to do the proper damage for whatever purpose intended. Technically, a quarrel took its name from the flat-sided head which had either three or four sides. It could be blunt or pointed. The term bolt finally became accepted for all crossbow projectiles.

In medieval times, all arms were used so interchangeably in war and hunting that it is sometimes difficult to separate their uses. Popularity of any type for military use usually dictated its adaptability for hunting. Crossbows for hunting were usually the most ornate, with polished metal fittings and inlays of silver, ivory and pearl.

Various artisans found fame in making certain parts of the bow rather

than as a complete arm. Some were proficient in building stocks, others in making strings and still others were expert in forging the steel bows or the intricate locks. Some craftsmen specialized in making the cranequin or the windlass.

In some countries, smaller crossbows propelled poisoned bolts for killing deer. Even these weighed as much as 9 pounds exclusive of any cocking device. The white hellebore, a European plant with greenish-white flowers, has a poisonous root from which was extracted deadly juice for the purpose.

Because the crossbow, as with the modern rifle, was relatively easy to master, English authorities became alarmed that the populace would lose the skills with the longbow that had made it nearly invincible against the continental armies. Consequently, even possession of the crossbow by other than certain nobles and persons of wealth, was outlawed in 1508. But by 1536, the law was repealed and cross-

bows were once again permitted except in the king's parks and forests. The law was again enforced a year later, with emerging guns included. However, within another 40 years or so, the effectiveness of guns forced England to give up in the effort to retain the longbow as the sole weapon for its people.

Even though nations on the continent of Europe gave in to the burgeoning use of guns considerably before the English, both the longbow and the crossbow held out long after their early appearance. In fact, they were considered superior to the early firearms long after guns gained in popularity. By the early 1500s, the military employment of crossbows had all but disappeared on the European continent. The Chinese may have been among the last to give up its use, since they were using a repeating crossbow in war as late as 1860.

However, popularity of the crossbow for hunting deer remained on the continent until as late as 1650. It is

GROUP OF CROSSBOW WINNERS, all from New Jersey, from left: Oscar Leckburg, Ann Neill, George Gurik, George Hall and Dick Neill.



believed to have fallen into disuse somewhat earlier in England. As with any activity, it didn't completely disappear as sentimentalists and hobbyists kept the crossbow alive. It had a renewal in popularity as a hunting arm with the invention of the double-stringed stonebow for small game at about the time it was falling into disuse as a large game arm.

Stonebow

The early stonebow, an adaptation of the larger crossbow, was followed nearly 200 years later in England with the bullet-shooting crossbow. A half-ounce lead ball served as the projectile which was held in a patch between the double strings. It was quite effective on small game such as rabbits and rooks. Because of its relatively light construction, it became a favorite with ladies of that time. The Belgians later developed this idea further by using a barrel to contain the bullet which was quite accurate at up to 50 yards and could send its projectile nearly 400 yards.

No treatment of the crossbow can ignore shooting at the popinjay. As with many terms here and abroad, the word popinjay is a corruption of an Old French term for the parrot, *papagai*. The game consisted of placing the popinjay on top of a high pole with the object being to knock it off. Originating on the European continent, shooting at the popinjay is recorded as far back as the 13th Century and may be the oldest of sports involving the use of a crossbow.

The bird was invariably green in color and was usually made of wood. Bringing it down was an accomplishment attended by great honor and one which frequently found much favor with the royal court in France and Belgium. In Italy, a live dove was sometimes used as a popinjay.

In chronicles of the times, it is sometimes pointed out that efficacy of the crossbow as a hunting arm was made possible to a degree by comparative tameness of wild creatures. As in

the more remote areas of North America, deer, rabbits and birds had not been frightened by the association of noise which accompanies the use of firearms. Since any bow discharges its projectile with sounds that are no louder than many experienced by wildlife in their normal pursuits, it is unlikely that they often associate any wound directly with the hunter.

Drawings preserved from early writings often show the crossbow hunter at ridiculously close ranges to his quarry. Of course, we can't always interpret these primitive reproductions at face value. Scenes of mortal combat also frequently show opposing archers practically on top of each other. It is possible that an artist's space limitations were the reason for this.

What the future of the crossbow is at this moment in America is anybody's guess. The relative handful of enthusiasts has remained fairly constant while advocates of the conventional bow have continued to increase annually in large numbers.

There was even an effort to reintroduce the crossbow in warfare through experiments carried out in Vietnam. Arch Engineering in California has come out with a crossbow pistol complete with a 2½X pistol scope. In Switzerland a crossbow round is shot at 30 meters with bows that weigh in at from 200 to 250 pounds and shoot metal bolts into lead plates.

The crossbow could be at a crossroad which will take it forward, encouraged by new technology and new materials available, to new heights. Or it may continue to hover in the side road of gadgetry and curiosity. Whatever its future, it is comforting to know that there are such as those who shot at Valley Forge who will continue to keep alive the traditions and the sporting aspects of the crossbow.

Give

GAME NEWS

To a Friend . . .



BENCHREST AND SANDBAGS MAKE IT easy to check out trajectory of wildcat cartridge in heavy-barreled target-scoped varmint rifle.

Elementary Ballistics

By Don Lewis

Photos by Helen Lewis

LOOKS AS IF someone else knows about this chuck field," I commented to my hunting companion, Matt, as I pointed toward a parked car. "I never thought anybody would find such an isolated field."

"I don't think it's a hunter," Matt replied. "They're cutting mine posts in this section, and that car probably belongs to one of the fellows who marks the trees. At least I hope so."

"Yeah, so do I. This is a good field for chucks," I added as I parked.

Matt and I got our guns and started up a leafy trail that led through the woods for several hundred yards to an open pasture field. We had barely got started, when a rifle cracked.

"That's not the usual way to mark trees for cutting," I said dejectedly.

"I have a hunch we're out of luck here tonight."

"Sure looks that way. Why don't we slip to the edge of the trees to see if it's someone we know," Matt said.

Another sharp crack split the air while Matt and I were deciding what to do. As we eased forward, two more shots rang out.

"That fellow is getting enough shooting. I hope it's all at one chuck. We'll be out of luck here for the rest of the summer if he's shooting at different chucks," Matt said thoughtfully.

"And connecting," I threw in. "Let's go see who it is. My old Hornet is the only chuck rifle in these parts, so it must be a stranger."

When we got to the edge of the woods, we could see a hunter at the far end of the field down on his hands and knees. After examining the area for several minutes, he started toward us. As he came closer, I could see that the fancy long-scoped rifle he was carrying sure made my single-shot Hornet look pretty sick. I was proud of the little Hornet with the cheap scope on it. Back in those days, I was the only chuck hunter in the entire community, and I thought I knew something about chucks and chuck rifles; I was about to be educated.

"How many?" Matt asked. "You sure did some powerful shooting for a couple of minutes. With a fancy rifle like you have, you couldn't have missed every time," Matt ribbed good naturedly.

"I'm at loss what to say, gentlemen. As hard as it is for me to believe, I never touched a hair," the middle-aged hunter replied. "I had everything worked out in advance concerning the wind drift and trajectory path. It's such a short shot to boot. Not more than 300 yards to the chuck den in the corner of the field."

"It's not quite 200," I blurted, without realizing that I was damaging his ego as an expert chuck hunter.

Superior Smile

A faint smile formed as he looked at me patiently for a few seconds and then reiterated that it was 300 yards-plus to the corner. Turning to Matt, he added, "It wasn't poor shooting that caused me to miss; it was a miscalculation on my part in the ballistics."

This straightforward admission caught my by surprise. I had done plenty of blasting at chucks with all types of firearms, and I normally blamed my poor shooting for misses. This was my first encounter with a hunter who used such an unorthodox alibi.

"I don't quite follow you," I ad-

mitted after listening to him explain some pretty technical stuff to Matt. "What do you mean by 'calculating ballistics' anyway?"

Another surprised look came on his face. "Don't tell me you're a chuck hunter and you don't know about ballistics and how they affect your shooting?"

I didn't know what to say. He had me good. I didn't want to appear to be some country boob, but I had no idea of what he was talking about.

"Yeah, I know about holding high and low," I came back at him impressively.

"High and low has nothing to do with what I'm talking about. I mean sectional density, trajectory arc, parallax error, impact inertia, things like that." He eyed me and Matt keenly.

He really had me now, and Matt was hopelessly lost. This was the most powerful gun talk either of us had ever heard. This guy had to be an expert. I tried to appear as knowledgeable as possible, but the fellow simply cut me to pieces while he chomped his jaws on an enormous chew. We sat spellbound for over an hour while he orated and expectorated. I drank in every word without ever thinking that it might not be the truth. Right then, I thought he had given me the answers to most of my questions.

"What did you think of that fellow?" Matt asked on the way home.

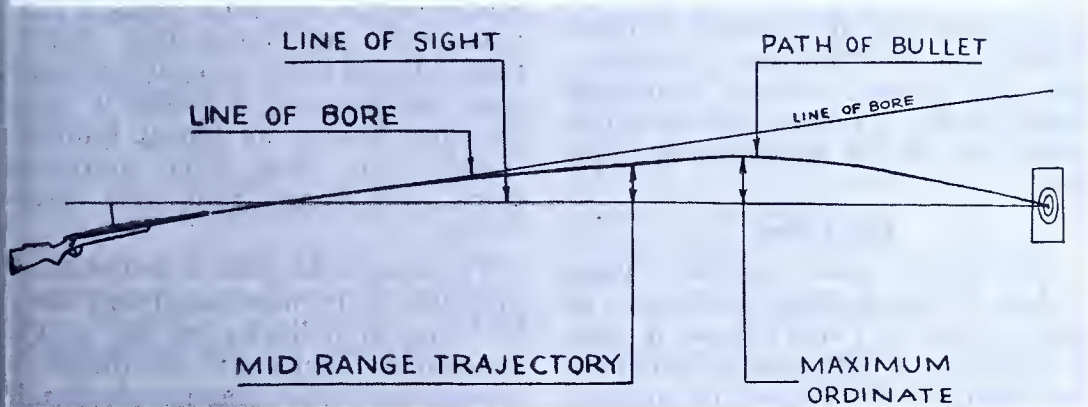
"Great is the only word that I can think of now. I think I learned something tonight," I said happily.

"He never did say what those things were like—that density thing and parallax or whatever the heck it was. Every time we tried to pin him down, he evaded the question and rambled to something new."

Suddenly, it hit me. Matt was right. This fellow had not told us anything constructive. He had told me nothing in layman's language that would make me a better shot. All he had done was use a bunch of impressive ballistic

terms and concoct a wild theory to go with them. I was country boob enough to listen and believe. I should have become suspicious when he estimated the range so poorly. A good chuck hunter would have stepped it off to check his estimate. I felt mighty small about the whole deal, but it was as good a lesson as a fellow could learn. Experience is always the best teacher, whether it's in ballistics,

His reference to sectional density had nothing to do with his miss. This is one term that gets worked over in gun articles with the same zeal a promise gets in a political speech. Once said, it's forgotten. In simple terms, sectional density is the bullet's weight in pounds divided by the square of its diameter in inches. Normally, the higher the SD reading, the better the penetration. Also, a



THIS SKETCH, EXAGGERATED IN THE vertical dimension for clarity, shows relationship of terms of interest to long-range shooters.

checkers, or changing baby diapers. I really got experience that night.

How much about ballistics does the hunter have to know to be successful? Very little! If he knows the nomenclature of his firearm, has a fair knowledge of the game he is hunting, and practices safe hunting methods, he'll get along. However, we shouldn't be satisfied with just these rudiments. The hunter who knows how his rifle performs along with understanding a little about the bullet he's using and its trajectory will have the edge over the man who just hunts and shoots.

The problem with ballistic terms is they are used freely to decorate an article, but seldom if ever does anyone take time to define them. Our friend who blamed ballistics for his failure to connect on the chuck was barking up the wrong tree. He missed the chuck due to poor shooting, not knowing where his rifle was zeroed in for, or miscalculating the yardage.

high SD value helps the bullet overcome air resistance. The formula for calculating sectional density is W/d^2 . As an example, consider the 105-grain 6mm bullet. To convert its weight to pounds, you divide by 7000 (the number of grains in a pound). You then divide this by .243 (its diameter in inches) squared. Its SD is found to be .254, if my arithmetic is correct.

Another term that gets whipped around quite a bit, particularly on windy days, is ballistic coefficient. Basically, BC is a measure of a bullet's ability to overcome atmospheric resistance. It is a ratio between a bullet's sectional density and its coefficient of form, the latter item usually being referred to as the i factor. It is expressed by the formula W/id^2 . The higher the BC of a bullet, the better it will penetrate the air and the flatter it will shoot, assuming a certain muzzle velocity.

The difficulty here comes when you

try to determine a bullet's i factor. Most of the bullet makers and ammo manufacturers determine it by chronographing a given load's velocity at two ranges and working backwards, since they then know the velocity loss over a given distance. Few individuals have the equipment to do this. Years ago, Dupont ballisticians Wallace Coxe and Edgar Bugless created a chart on which you can place your own bullet's profile against a series of point shapes in all common calibers. When you find the one it matches, you can assign a listed numerical value as the i factor and then calculate the BC of the bullet in question.

BCs Listed

Nowadays, most custom bullet makers list the ballistic coefficients of their products. I don't know if their information is 100 percent accurate, but doubtless it is equal or superior to the results you and I can get by the methods available to us—and it's a lot simpler to obtain.

As a quick example of the effect of bullet shape on BC, consider two 6mm 105-grain bullets, the first with a round-nose profile, the second with a sharp spitzer point. Though both have the same sectional density—.254—the BC of the round nose is .256 while that of the spitzer is .395. The latter will have much higher remaining velocity and energy at all ranges. You might keep this in mind if next season's deer hunt will be in country that offers long shots.

Breech pressure should be of more concern to the handloader or a gunsmith who chambers barrels. Until recently, the individual gunsmith or handloader was at a loss to determine the pressure. York-Cantrell, Inc., of St. Clair Shores, Mich., now offers a reliable instrument for about \$400, and this is a pretty good break considering that factory equipment ran into the thousands of dollars.

The best approach to breech pressure for the man who is using factory

ammo is to be certain his rifle is in good condition. Unknown military relics, questionable guns from the past, and any gun that is loose or appears worn should be forgotten as far as shooting goes. The handloader should always stick to data suggested in the loading manuals. Hot loading could lead to a sad experience.

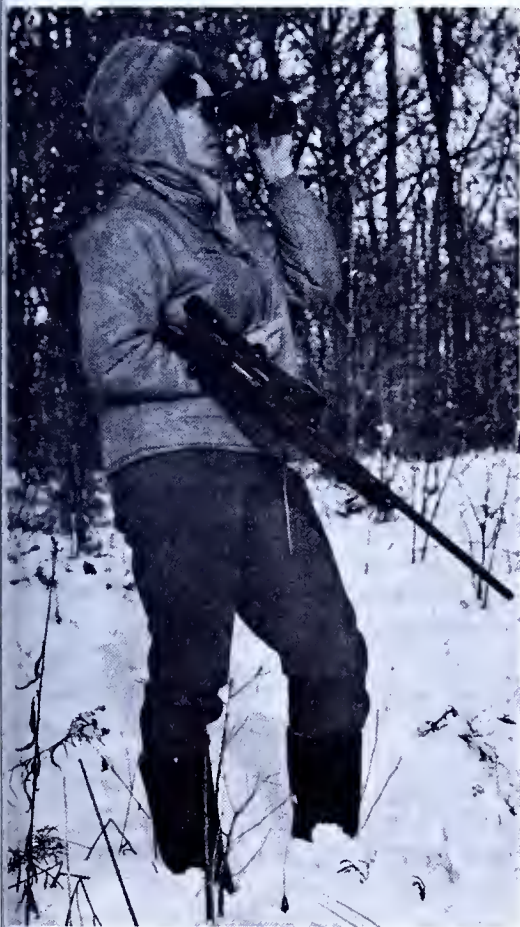
Velocity gets too much attention nowadays. Most of our hunters constantly search for faster loads. I can't agree with this. Super high velocity ruins a barrel in a comparatively short time, and accuracy is harder to come by when bullets are hitting fantastic speeds. Stay away from maximum loads and enjoy your rifle years longer.

Trajectory—the path a bullet takes in flight—is the most important thing to know in ballistics, so far as I'm concerned. Trajectory is always a curved line, the amount of "bend" generally being determined by the bullet's average velocity over the range in question. The higher the average velocity, the farther a bullet will go in a given time and the closer it will remain to a straight line extended from the rifle's bore. However, no bullet flies in an absolutely straight line. Fired from a bore which is parallel to the ground, it begins to drop the instant it leaves the muzzle, and the farther it goes the more abrupt its downward course becomes. To compensate for this downward curve, a rifle's sights are adjusted so the barrel is pointed slightly upward when fired and the bullet thus does not leave the bore parallel to the ground. In effect, it rises in relation to the line of sight and actually intersects it at two places, the first time fairly near the gun, the second time when it drops through the line of sight at whatever distance the rifle is zeroed in for. However, the bullet never rises above the line of bore. It is to the hunter's advantage to zero in at as great a distance as he can, so long as the bullet's greatest height above

his line of sight is acceptable. This height, incidentally, what is called the maximum ordinate, usually comes at about two-thirds of the distance for which the rifle is zeroed in.

Because most rifle ranges are 100 yards long, this distance is commonly used to adjust a rifle's sights, the point of impact being located according to calculations which we feel will give us the desired trajectory over our average hunting grounds. Cartridges in the 30-30 170-grain class, with a muzzle velocity of about 2200 fps, are best zeroed about three inches high at 100 yards (which is about the top of the frond bead, as that normally subtends about six inches there). The bullet will then be about

HELEN LEWIS LIKES the short M77 Ruger 308 for woods use on big game, uses binoculars to examine shadowy images rather than her rifle scope.



three inches below the center of the bead at 200 yards—or about three inches above the bottom edge, as the bead covers approximately a foot at that range. By comparison, the 180-grain 300 Winchester Magnum load at a velocity of almost 3100 fps, when zeroed three inches up at 100 is also that high at 200, and only one or two inches low at 300 yards, which gives a good illustration of the value of reasonably high velocity and a bullet of good ballistic coefficient.

The term parallax is mentioned often in relation to shooting. Too often, perhaps, as it has little practical effect on shooting results. Nevertheless, if the fellow you're talking to doesn't understand it, it doubtless sounds like an excellent alibi for a miss.

Scope Parallax

Parallax is a scope problem. It refers to the apparent movement of the reticle in reference to the aiming point, and it can occur when the scope is not in exact focus for the distance at which it is being used. I say "can occur" because it doesn't necessarily occur. Let's consider a little background. Hunting type scopes normally don't have focusing adjustments for range. They are built to have, in a sense, universal focus. This can be done because of their relatively low magnification. High power target scopes do have focusing adjustments—usually the objective lens can be moved forward or backward by a threaded sleeve—so that the user can focus them exactly for the range he is shooting. Because he is aiming at a small target, needs precise definition, and is firing long strings of shots which cause eye fatigue if the scope is not exactly focused, such a design is necessary.

However, a hunter has none of these problems, and to save weight, cost, bulk, etc., the factory simply assembles the scope so that it is in exact focus at 100 or 150 yards, or some other intermediate range. What this



MICROMETER AND headspace gauges are tools constantly used by gunsmiths, particularly with long-range guns.

means is that when the target is that precise distance away, the image formed by the objective lens falls exactly upon the reticle inside the scope. However, if the target is closer or farther away, the image will fall ahead of or behind the reticle. In low power hunting scopes the degradation of image quality is not serious enough to be noticed. However, it is this little bit of distance between the scope's reticle and the target's image within the tube that gives rise to parallax. If your eye is not in precisely the same relation to the scope from shot to shot, an angle is introduced which apparently causes the reticle to move in relation to the target, and

this of course can move your point of impact. This sounds bad, and at times it might be, but rarely to a big game hunter. With an average scope at normal hunting ranges—say up to 300 yards or so—the maximum error due to parallax might be a couple of inches. Since probably not one hunter in a thousand can fire an offhand group measuring under six inches at 100 yards, the practical effect of parallax is obviously nil. Furthermore, if the eye is in the same relation to the scope for every shot—as it normally is in test firing from a bench, prone shooting, etc.—parallax does not exist at all, for target, reticle and eye are always in a straight line. Everything considered, the parallax problem is mostly in the mind, so don't be too impressed when somebody uses it to alibi a miss.

There are other ballistic terms of interest, but we're running out of space for this month. Maybe we'll go into some others in the future. As I said in the beginning, not knowing these things wouldn't necessarily keep anyone from bagging his buck or bear. But I do think a better understanding of these basic ballistic points can improve our chances of success. And isn't that one reason we hunt?

Looking Backward . . .

"When the Indian was not engaged in war, the chase formed his principal occupation. It had its regular seasons. The deer-hunt began in September or October, and lasted until January. Throughout the rest of the winter, as also in spring, the fox, the raccoon, beaver, and bear were sought for. . . . Next followed the summer deer-hunt, in June and July, when the fur of these animals assumes a reddish hue, which increases the value of their pelts. And it was, mainly, for the sake of these that they were chased during six months of the year. The meat was often wasted, lying untouched where the creature had been flayed, or hung from the branch of a tree, as a gift to the hungry. An expert hunter would shoot, in a single autumn, from fifty to one hundred and fifty head."

Edmund DeSchweinitz, "The Life and Times of David Zeisberger," pp. 80-81, J. B. Lippincott & Co., Philadelphia, 1870.

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IN THIS ISSUE

FEATURES

	Page
Tribute to a Queen	2
By James D. Hockenberry	
Groundhog Gunnin'	6
By W. B. Anderson	
Gobbler in the Fog	14
By John Plowman, Jr.	
Susquehanna River Waterfowl Program	17
By Nick Sisley	
Native Wild Orchids	23
By Ken Calnon	
The Pennsylvania Wild Turkey	28
By Arnold H. Hayden and Gerald Wunz	

NEWS

Field Notes	34
Conservation News	39
Hunter Safety Education	46
By John C. Behel	

COLUMNS

It Doesn't Have to Be Plain (Camping)	49
By Les Rountree	
Target Tackle Topics (Archery)	54
By Keith C. Schuyler	
Turkey Gun Dilemma (Guns)	60
By Don Lewis	

COVER PAINTING BY CHUCK RIPPER

The spring gobbler season is like nothing else ever experienced by hunters in Pennsylvania. Long before daylight the gunner finds himself a hiding place. He sits motionless, enebanted as the mist-shrouded dawn slowly brings the woods to life before his eyes, ears straining to hear some sound—any sound—having to do with his quarry, an old tom turkey. Then, like a jolt of electricity, it comes—the heart-jamming gobble-gobble-gobble of a monster game bird! It isn't far away . . . perhaps a couple of hundred yards. Cautiously, the hunter reaches for his call. In his mind's eye he sees the gobbler strutting imperiously before a hen, perhaps several of them. Can he call him away? He must try. The first yelp goes out. . . .

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Conservation and Survival . . .

I DON'T THINK there is anything more important than conservation with the exception of human survival . . . and the two are so closely interlaced that it is hard to separate one from the other." So spoke Charles Lindbergh in an address to the Alaskan legislature in 1968. That was just a few years ago, but at that time not many persons had given any thought at all to the subject of conservation—that is, the wise use of our natural resources—and those who tried to bring it to public attention were laughed at. Only recently, when its relationship to the question of human survival became clear, has conservation been noticed by the mass communication networks. We hope this was in time, for these are the only organizations which have the means of arousing public interest, and, without the full support of the public, most programs intended to give consideration to the non-human portions of this world (on which all life ultimately rests) are doomed to fail.

There are always individuals or groups with a common interest—which is to say, a profit motive—eager to plunder any resource for their own immediate gain. Such groups often give lip service to environmental importance, especially now that it has attracted such great public attention, but their basic attitude is "my interest is too important to be governed by foolish rules; let the other guy do the accommodating." And some do not even make the pretense of cooperating. As just one example, consider this quote from the December, 1969, issue of *American Heritage*, attributed to James D. Reilly, vice-president of Consolidation Coal, during a speech in Pittsburgh: "The conservationists who demand that strip miners do a better job of restoring what they tear up are stupid idiots, socialists and commies who don't know what they are talking about. I think it's our bounden duty to knock them down and subject them to the ridicule they deserve."

Isn't that some attitude for this day and age? Admittedly, old-time strip mining practices are but a minor part of the overall degradation of our environment, but they indicate attitudes still shared by too many. We don't advocate a return to our forefathers' way of life—times change and resources are meant to be used. But it isn't necessary, in the name of progress, profit or anything else, to destroy 90 percent of an area in order to harvest the 10 percent which is of interest to a small group because it is in high demand now. The time is going to come when that wasted 90 percent is going to be vitally needed. To think otherwise is to show a lack of contact with reality.

We feel there is at least a moral question whether anyone, regardless of what he believes his legal rights to be, may wantonly destroy anything. Does an individual truly "own" anything? Does whatever ownership exists give him the right to destroy? Or does he merely have stewardship over something for a certain length of time, a length which obviously cannot be greater than his lifespan or perhaps the duration of a family or an organization? Title to a piece of land, say, of course must give certain rights in return for its purchase price. But does it not also entail certain duties, one being the responsibility for passing on that property in a condition similar to that when it was received? We wonder. Anyone who believes his only obligation is to plunder and then move on, leaving a wasteland in his wake, is a barbarian of the sort we can

(Continued on Page 41)



Tribute to a Queen

By James D. Hockenberry

Vast and varied experiences are to be encountered outdoors. The forests and the fields, rivers and lakes, ponds and streams, all serve as but stages, settings for the drama of nature to unfold. Comedy and tragedy, joy and sorrow, are but a few of the situations and emotions known to the outdoorsman.

I've been fortunate in that I've spent much time outdoors and shared many of the moods of Mother Nature. Maybe not so fortunate, though, as aware—aware of the wide range of thrills and emotions to be enjoyed in the outdoor life. One such experience that stands paramount in my memory is related here.—JDH

SHE WAS CALLED Queenie, and couldn't have been more aptly named. She was the Queen. As I recall, she was purchased as a pup, for ten dollars, from a local farmer. No papers, no registration, just a humble beagle born for one purpose—to hunt. I imagine most brush hunters find, at most, just one dog like her in a lifetime. I know I've never seen her equal.

Queenie belonged to my best friend, Howard "Prinky" Swisshelm, also, in my estimation, born for that same purpose—to hunt. I was 14 when she came to us, Prinky some five years older. Summer, fall, winter and spring we roamed the woods and fields. Nothing outdoors was safe from our explorations—patches of woods, farms and abandoned fields. Queenie was our constant companion. She was the most versatile hunting dog I've ever seen. In a field or thicket, no rabbit escaped her nose. A slow, deliberate tracker with a fine voice, when she said a rabbit was there, you could bet a box of shells he was there. I wouldn't even try to estimate how many cotton-tails she brought around to our guns. In November, my very existence re-

volved around those clear, frosty mornings in a Western Pennsylvania field, with my 16-gauge double-barrel, Prinky and Queenie. Those were days when men, boys and beagles alike were glad to be alive.

When it came time to hunt squirrels we would just take Queenie into a squirrel woods, and automatically she began hunting squirrels. Ranging silently through the woods, she barked only when she had a squirrel up a tree, and again she never lied. She made a different sound hunting squirrels than rabbits, sort of a rapid, high, staccato *yip-yip-yip*. It was easily distinguishable from the lower, drawn-out *y-i-i-i-p* when on a rabbit track.

Queenie was a very docile, even-emotioned dog. Not high-strung and excitable like some beagles I've seen. She was content to lie quietly when not in the woods or fields, watching our every movement with those large, black, knowing eyes. In her wisdom, perhaps she realized that these two young fellows needed a little guidance in the ways of game.

Young and Restless

When hunting season was over and the holidays past, when the days were short and in the grip of winter and most hunters were sitting in the warm, recalling past seasons and dreaming of spring, another phase of Queenie's ability came forth. Prinky and I were too young and restless to be content just sitting out the winter, so we searched for some outdoor activity to fill the void. Queenie provided this by doubling as a foxhound. I feel this was her most unusual characteristic. A transformation seemed to come over her. She would trail a fox for hours, laboring through the snow on her short legs, inevitably bringing him around to within shotgun distance. No



QUEENIE WAS THE MOST VERSATILE hunting dog Hockenberry ever saw. Cottontails, squirrels, foxes—she chased them all.

amount of effort could call her off a fox's trail; she just wouldn't give up. Her voice changed and took on the long bay of the foxhound. She just wouldn't even consider the possibility that she was outmatched against a fox. Many January and February mornings we spent hunched in Woolrich coats on a fox crossing, listening to Queenie and waiting for the appearance of the fox we were so sure would come.

Days passed into weeks, and weeks into years, and if anything Queenie became better with age. I joined the Navy and spent the next three or four years on the high seas. During this time Pinky moved up to Crawford County, where he still resides with his wonderful wife, Joann, and began the more serious task of raising a family. Queenie was still one of the family . . . but she was getting old.

I came home eventually, and renewed my old friendship with Pinky

and Queenie, continuing my days afield. Queenie had presented her master with a couple of litters of fine pups, all hunting on their own by now, but she refused to quit hunting.

Then in the spring of 1960 she suffered a stroke which left her sight poor and her body twisted. Her neck was partially paralyzed and her head was carried at a downward, twisted angle. It wasn't her end though, and despite her handicaps she seemed contented and still full of life. The vet assured us she was in no pain or discomfort. We felt that her hunting was finally over, though, and a place in the kitchen, out of the weather, was awarded her. The old girl was well loved, and treated with all the care and respect she so much deserved.

October eased up on us once again, and the hunting season was upon us. I came up from Pittsburgh along with some friends to spend the opening of

small game season with Prinky. Friday night before the season opened was spent around the kitchen table, the coffee pot getting a real workout, recounting past hunts. Queenie was of course one of the main topics, and she seemed to enjoy this as she lay watching us, her muzzle grey, her old eyes still knowing.

The next day dawned magnificently. It was crisp and clear, with only slight patches of cottony white clouds in the blue sky. We gathered our gear and prepared to leave with a couple of the younger dogs. We hadn't intended to take Queenie along. But the old girl had different ideas. She gathered herself wearily up and started after us. I hadn't the heart, so Prinky tried to explain to her that she was being left behind. I'll never forget the commotion she raised. She cried and bawled so pitifully we just had to take her. We figured she'd stick close to us, and when she got tired we'd bring her home.

We drove to the spot we were going to hunt, a high hilltop recently cleared and still covered with slashings and brush piles, Queenie occupying a place of honor on the front seat between us.

Crawford County in the fall, with its maples and oaks bearing every color imaginable, defies description. If you've never been there at this time you're missing one of Nature's greatest spectacles. The panorama spread out below us, with the woodlots and pastures and farm fields contrasting, is etched in my memory still, like a painting.

We started the hunt. Queenie ranged immediately out in front. About 50 yards ahead of us, she rounded a huge brush pile and went out of sight. Suddenly she yipped, and then let out a long bay. She was out of my line of sight, and I didn't see it, but Prinky hollered to me, "Fox, Jim. He jumped out of that brush pile right in front of Queenie, and she's after him!"

We took off running, trying to call her, but she was soon across the dirt



road and starting down the hill. The fox must have been of the antelope breed, because he took off in a straight line and never veered. We figured he must have been sleeping, and when Queenie dived into that brush pile, he had no choice but to try to outdistance her. She was too close at first for him to start a fox's usual maneuvering.

Queenie was soon deep in the valley, and her voice was becoming faint with the distance. Our only alternative now was to take the car and try to head off the fox. We drove down to where we figured they might cross and began listening. They already had passed this point, and we could barely hear Queenie in the distance. She was still trailing. Then all was silent.

We searched for her all that day, and the next. She died on the trail. We never found her body. I don't think we were supposed to find her. As heartbreaking as it was, I don't think there could be a more fitting finish to a great dog's life. I'm sure she's still trailing, somewhere, and maybe some day our paths will cross, when my hunting days here are over and I go to that big woods to hunt, too.

And so I dedicate this tribute to a Queen. She deserves it.



Wanta Know How to Get Started Huntin' the Biggest Game in the Back Pasture? Here's the Straight Stuff on . . .

Groundhog Gunnin'

By W. B. Anderson

"YOU CAN GO, Dad. Go home if you want. I'm going to stay all afternoon, if I have to, to shoot that chuck. I'm not coming home till I do." Pretty big talk for a twelve-year-old, especially after two clean misses of the same wary animal, but he meant just what he said, even though he doubtless knew I wouldn't leave him alone. What's more, he did shoot it, and without taking "all afternoon." The time and care spent with a young son had found their mark, and this was a preview of what could be expected from him in the years to come—when the obstacles would get man-size. What a satisfying moment for a father. The passing years cannot blur this moment, perhaps the best, but still only one of the many wonderful experiences in hunting the woodchuck or groundhog, if you prefer.

We all pretty much agree that "Anticipation is greater than realization." Cervantes put it a little more simply when he wrote: "The road is more pleasant than the Inn." These express the satisfactions of every genuine hunter-outdoorsman, whatever game he seeks, but nowhere is the thought more apt than in hunting the woodchuck. Here is a sport which combines pleasures and rewards by the dozen. Each element taken in the orderly progress toward expertise fits so well with the others—but enough of partial opinion. Let me introduce you to the first elements of the hunt. No 1000-yard shots here or the fancy jargon of ballistics, or even any chucks as big as sheep.

We seek *Marmota monax monax*, the woodchuck or groundhog. He and his variants are found widely in the United States and Canada. In spite of his name ("woodchuck" is a mispronounced Indian word), he is not really a woods animal. Woods edge, yes, but most frequently in pastures, hedges, under tree roots, stone walls, in banks and ravine edges.

Will you enjoy chuck hunting? My experiences can pretty well predict those who will and those who won't. If you like the big bang and lots of fast and noisy action, generally insisting on movement over quiet contemplation, you won't like chuck hunting

—certainly not for long. If you are the other extreme—an orderly, precise person who prefers a few well-placed shots and enjoys all the changing elements of nature around you—you're well on the way. A few successes and you're hooked for life. And that's another bonus point. If Granddad can no longer run up Tussey Mountain, he surely can walk out into the pasture and spend many more years in the field.

No Limit

Pennsylvania's Game Law is quite generous with the chuck hunter: no bag or season limit, no closed season—except as Mr. Chuck closes it himself through hibernation. Should you be inclined, and have the time, you can hunt from about April through October—but more about that farther along. Shooting hours are set forth in the Hunting Digest issue with each license. This digest should be consulted for other regulations too.

The equipment you *must* have is limited to an accurate rifle, with ammo, a scope, and of course a valid hunting license. For consistent effectiveness, experience indicates you should also have a sling on the rifle, binoculars, knife, scale, tape, and a solid rifle rest.

Each man should choose the specific items he needs, on the basis of his own tastes and experience. What suits me might possibly suit you and perhaps get you started on a sensible course, and will give some reference points.

I began with a pump-action 22 Winchester Rimfire Magnum and a 4X Dickson scope. Not a very impressive outfit at all, and not one I'd recommend today, but it brought down many a chuck and performed, within its limits (up to about 100 yards), very well indeed. The big drawback to the 22 WRM is its limited killing power. The chuck is very tenacious of life and must be hit well and hard to be stopped short of the hole. At over 100 yards the 22 WRM is just not fair to the animal. A wounded chuck is a lost animal, lost to die by slow degrees deep in his hole.

After that pump 22, in order I bought a



BRYAN ANDERSON with big chuck taken at over 200 yards with Unertl-scoped 222 Sako. Rifle rest made by J. G. Anderson of Radnor, Pa.

243 heavy barrel, a 243 light barrel, and a 222 light barrel, all by Sako of Finland. Of these, I now choose the 222, if I get first choice between son and Granddad. It seems to be an ideal chuck cartridge—going out to 225 or 250 yards with no recoil and very little report. Report has lots of meaning. It can be annoying, certainly can cause some hearing impairment, but most of all, the less of it the more pleased your farmer friends will be. I've shot, with permission, from surprisingly close to beef and dairy cattle with no problem using the 222. The 243 will reach out at least another 100 yards and strays less in the wind, but does have greater report, perhaps twice the volume of the 222.

The longest actual measured kill for me has been 355 yards with the heavy-barrel 243. No doubt it can do much better.

The 22-250 looks about the equal of the 243 in ranging ability, if not wind-bucking, but one more rifle for me and it will be the divorce court, so I can only suggest you consider this caliber, too.

Scopes are what has made chuck hunting possible. No man using iron sights can reliably bring down chucks at much over 100 yards. Even this takes real skill—more than I have found.

I own a 4X Dickson, 6X Weaver, 10X Unertl Vulture, 15X Unertl Ultra Varmint, and a 4-12X Redfield variable. All are good. Each was made and priced to do a specific job, and each has proved it could do it. The 4X Dickson is on Granddad's Browning T-Bolt 22 rimfire; the 6X Weaver on a 22

WRM Anschütz; the 10X Unertl on the 222; the 4-12X Redfield on the 243 light barrel; and the 15X Unertl on the 243 heavy barrel. Each seems to match and complement the weapon. All were sighted in with deliberation and pleasure. If I had to choose only one scope for my type of chuck shooting, the 10X Unertl Vulture with internal adjustments would come first.

This won't be a treatise on all the various brass, primers, bullets, powders, etc., that handloaders can use in these rifles. For my 243s I found early that the Sierra 85-grain hollow point boattail and 4350 powder gave better than minute-of-angle groups consistently — sometimes half-minute groups. (Minute-of-angle simply means a one-inch group at 100 yards, 2-inch at 200 yards, and so on.)

My 222 is more accurate at medium chuck ranges and can be tuned to a finer point than either of the 243s. At this stage I'm not certain what reload is the final answer, so none will be given. But I would suggest that hollow point bullets be used on chucks. In my experience, they are the most certain in action. They kill instantly by opening instantly. Pointed bullets, particularly when velocity isn't extremely high, sometimes enter and leave the animal's body and, without hitting bone, go through as a thin spear would, not killing instantly but letting the chuck get into its hole.

To help decide what caliber is right for you, consider these simple reference figures (all at the muzzle):

22 Winchester Rimfire Magnum, 40-grain hollow point, velocity 2000 feet per second, energy 355 foot pounds;

222 Remington 50-grain hollow point, velocity 3200 feet per second, energy 1140 foot pounds;

243 Winchester 85-grain hollow point, velocity 3300 feet per second, energy 2300 foot pounds.

Best Caliber

For the fortunate man who can choose a rifle for every animal, from mouse to moose, selection based on personal experience could take a lifetime and be a lot of fun. But what about the man who must choose one compromise caliber and own but one rifle? Fortunately, there is one choice to satisfy most all the needs of a Pennsylvania rifleman—the 243 Winchester—and almost every U. S. and European riflemaker has at least one model in this caliber. A bullet of 70 to 85 grains will be excellent on chucks, and

the 100-grain soft point will down white-tailed deer with no trouble if placed anywhere near a vital area. Fitted with a 4-12X variable scope which can be cranked up to full power for chucks and down to 4X for deer, a 243 will serve for both. A bonus with this setup is the solid confidence you have in deer season from using that tried-and-true rifle.

A carrying sling is necessary if your hands are to be free. The sling is not so important to support the rifle during firing, as a rest will do the job much better, so most any kind of sling will do.

Tall Tales

When chuck hunters gather, tall tales are told of the one "bigger than a sheep," and "those 22-pounders in Greene County"—and on and on. You will know for certain how exaggerated these tales are, and it will add additional interest and detail, if you actually weigh and measure each one shot (nose to tip of tail). I use a Langley Fisherman's De-Liar, which will weigh to 28 pounds and measure to 40 inches. Neither has ever been fully extended. The heaviest chuck this scale has ever held was 14 pounds, in late September, with full winter fat. Lengths range 22 to 25 inches for mature animals. For a number of years I have also recorded location, date, time of day, distance, and sex, along with weight and length.

Some hunters use the rifle scope to search for chucks, but it has a very limited field of view and can't really sweep and search fencerows and fields. It is also inherently dangerous to use the rifle in this way. Accidents can occur and binoculars are the answer. I have tried several, in this order: 7x50 wide angle Naval type, weight 5 pounds; 7x35 regular hunting variety, 1½ pounds; 7x21 compact, ½ pound. Optically, the big one was best, but it was far too bulky and heavy. I am now using a 7x21 Nikon ultra compact which is very light and has excellent optical characteristics. There are several other makes of similar quality. Beware of the really low-priced binoculars—the \$19.95 specials. They simply can't be well made at those prices, and you'll end buying a second pair at additional cost.

There isn't much use in investing in an expensive rifle and scope and spending hours at the benchrest tuning it with precise handloads and then going out in the field to discover lots of hand-held wobble. No one that I know can hold a rifle solidly enough to hit chucks consistently at 300 yards with-



TYPICAL MORNING'S bag in good Pennsylvania woodchuck country. Rifle is a wildcat 6mm built on M70 Winchester action with 10X Bushnell scope.

out some kind of help. Few shooters will practice enough to use a military-type sling efficiently, so some kind of light, strong, adjustable, mechanical rest is the answer.

None of the equipment described is especially bulky or heavy. It was meant not to be, but you still can't stuff your pockets with all of it and go lie down in the hayfield. That would be something like lying down on a set of carpenter's tools—and besides, it's hard to keep track of all those separate pieces. My solution has been to make a small wood box—a plastic or metal tackle box would do as well—and put all the pieces in it. That way, too, when you can get away for a few hours and want to move quickly, there isn't any delay while you search around the basement for all the necessities and forget a few in your rush. Just grab the rifle and box and go. There is no need to carry this box into the field. Leave it in the trunk of your car, taking out just those things you need.

The start-up rig for a chuck hunter costs about what a beginning golfer might spend, perhaps a little less. After that, comparison ends. The golfer will spend \$12 to \$15 a round, take all day, and wait in line to do it. You can have the whole wide world of nature to yourself, take your son and Granddad along, too. You might shoot up a dollar's worth of ammunition and use some gas getting out into the country, but that's it.

Clothing isn't a critical matter since chucks are normally out only when the weather is comfortable. One occasionally will come out in the rain, but he doesn't really care for it. The only piece of clothing which is a must is a fluorescent orange hat. A chuck and a man's head *can* look surprisingly alike, so let's not take chances. The best type seems to be the mesh-top ventilated golfer's cap with baseball-type visor. It shades the eyes, and doesn't hold in the summer's heat. A fluorescent orange vest is also a wise choice.

Dew hangs on late in the morning in the hay and alfalfa. If wet feet bother you, and they do me, it is wise to waterproof your shoes. My son, on the other hand, has always seemed to prefer wet sneakers! Also in the shoe line, it's a good idea to wear something which goes well above the ankle to keep out weed seeds, gravel, etc.

Must Sight In

Sighting in *must* be done. It's usually most convenient to shoot at 100 yards. Sight in on a paper target and fire enough rounds to make yourself confident about what you and the rifle together can do. It is best to do it at some gun club range on sandbags, where there is usually someone around the range with a little extra knowledge to help. Be sure to tighten all the screws, especially on the scope mounts and the guard screws. There is obviously no point in going to the field unless you know where the bullet strikes. Sight in an inch or so high at 100 yards. Most shots will be in the 150-250-yard range. Take time at the bench to be sure of your rifle and then stick to that adjustment in the field. Don't be stampeded into changing because of a miss or two and leap to the conclusion it's the equipment. Usually it's you. Stick to one load, one bullet, one charge. Keep it simple. The fewer variables the more quickly you will become confident and sure.

Estimating range is one of those elements of chuck hunting for which you can't buy something to make you an instant expert. Accurate estimation is important since, unlike target shooting, no two distances will be the same. Experience is the only way. Any range estimation device light and portable enough to carry easily into the field just isn't sufficiently accurate to be worth the trouble. Those rifle scopes which estimate range on the basis of a knowledge of how many inches from one part of the animal's anatomy to another may work well on full-grown antlered deer whose size varies little.

On chucks, though, it isn't unusual for a full-grown male to be twice or more the bulk of a one-year female. This obviously could produce a large error in range estimation. My personal conviction is that the human brain computes surprisingly well and can be programmed easily.

Drive to the high school football field. Stand for a while and look at what 100 yards is. Then step off how many of your paces makes 100 yards. Do this back and forth a few times and you will then be able to estimate, probably within five yards, how far 100 yards will be in other fields. By later measuring, with your pace, the exact distance to every shot chuck, you will also perfect your range-estimation skills. According to Socrates, "The way to learn to play the harp is to play the harp," and the way to learn to estimate range is to estimate range. Don't be surprised if you are wildly wrong in the beginning. I remember back in the days of that 22 Magnum putting off eight or 10 rounds at a family of chucks who paid no attention. I couldn't understand why, until I later stepped it off and found they were 250 yards away and probably couldn't even hear me.

Windage adjustment is not often so important. A stiff breeze, uncommon on a nice sunny day, if crossing your line of sight might require a slight shift in hold—perhaps an inch or two, depending on the distance.

Without cooperation of the landowner, usually a working farmer, there can be no chuck hunting. If you show him you will act sensibly, safely, and are considerate of his needs, many farmers will let you hunt, and most will be happy to see you. I recall standing in a barn in Butler County, waiting patiently for a farmer I had never met to finish some welding. When he stopped and I had a chance to explain the kind of permission I wanted, he smiled and drew my attention to what he was welding—a cutter bar from his mowing machine, broken off on a chuck mound. He was very happy to give permission. Be sure and let the farmer tell you where the chucks are. He has spent years collecting this information, which he'll give you free if you will take time to listen. He knows every inch of his property, and he also knows whether you have misused it. Always check in and out with him. Tell him what you did. A few minutes before and after spent courteously really count. If convenient, speak to his wife—it's her land, too. Some hunters have the notion that open land is open to the world. It simply isn't so—

certainly not in the East. By acting in this way I had the wholehearted permission of six adjacent farmers in Butler County with perhaps a total of 1000 acres—really more than I could hunt. To these people I had become more than an intrusive stranger who merely wanted something for nothing. In a number of cases we became genuinely friendly. The working farmer doesn't spend a lot of time talking to people, and sometimes he enjoys a good visit. A side bonus is that you might be invited back during small game and deer season when no one else is permitted. Small token gifts are in order, not for the gift itself, but for what it means.

The very best hunting place is an old abandoned or unworked farm. These seem to be taken over by chucks immediately. The hedgerows and fencerows, especially around what used to be clover or alfalfa fields, seem alive with them. I recall one which had separate main holes every 50 feet or so in the sagging fencerow. The population must have gone as high as 10 chucks to an acre. The stumbling block on such a farm is that, of course, no one mows the fields. By late June, finding an open lane to fire through from the prone position becomes quite a test of eyesight and planning skill. Here is where a rest which can be used in sitting position really makes the difference.

"Shoot 'Em Out?"

Some landowners have to contend with many chucks, and are anxious to have you come. If you have such a friend, it's probably okay to try to "shoot out" his land by starting early in the season. I seriously doubt that complete shooting out can be done, but you can make a visible dent in the population. On the other hand, there is the sporting, or moral, consideration. The young, usually born in April or early May, can't feed themselves until mid or late June. Without an impelling reason from an insistent landowner, it seems quite out of order to shoot the mother of young, who will surely then starve. No one can tell male from female before they are shot. The law doesn't make this distinction, but a sportsman should. If chuck hunting were held off until July 1, as many chuck hunters do, there would never be a problem.

All this other advice is of no value if you can't find a woodchuck. You won't see him easily at first, but you will be surprised how rapidly the sighting skills develop.

There are two basic methods—"walking them up" and "scanning." I exclude road hunting because this is really an unacceptable method. The game laws are designed to discourage it, and with good reason.

"Walking them up" usually means a rim-fire 22 handgun (no autoloaders) or iron-sighted rifle, and is done by walking parallel to hedgerows or woods edges, about ten yards or so within fields. Shots come quickly as the animal runs for its hole, after sometimes making a brief stand due to curiosity.

Scanning gives the steadiest results and to me the greatest satisfaction. To do this best, you should take the systematic approach. Walk over the farm in early spring when the holes really stand out. Carefully choose positions from which you can cover the greatest number of holes with a good safe earth backstop. This usually means a level higher than the holes. Never shoot unless you have a solid backstop. I remember one old chuck—old because of his wisdom—who had chosen the top of the highest knob for a mile. There simply wasn't any way to get a safe shot at him. I often saw him standing up, outlined against the sky, but never took a shot because there was no safe way. I haven't been back recently, but unless someone's dog has succeeded, he probably is still up on that knob.

FRED ZAKRAJSEK of West Aliquippa uses his big game rifle, a M70 30-06 with Weaver K-2.5, for average-range chuck shooting in summer.



Concentrating on one permitted farm at a time is best. Learn all about it. There are many more chucks than you would realize. Good open sunny fields seem to run one to three chucks to the acre. After you have mastered one farm, add others in the same way. In spite of his name, the woodchuck doesn't prefer the woods. Food there is poor or nonexistent. He often lives a few yards into the woods for protection, coming out to feed into the fields where food is plentiful. He likes alfalfa and clover, beans, peas, corn in the milk, and early vegetables. Any tender green pasture growth such as timothy or plain grass will suit him too.

Look for chucks in the feeding areas. Normally they won't feed more than about 10 or 15 yards from his hole. Characteristic paths are worn between the hole and feeding areas as his low-slung body almost drags the ground. Look for these paths as you walk the field edges. During feeding, he will stand erect frequently to look for danger. If you make no movement, he usually will not take alarm but will return to feeding. His eyesight is excellent, and he

hears very well. The chuck has one main hole, easily identified by the excavated dirt and rock which surround it. Also, he has at least one spy hole and often two or more. These spy holes are normally clean of any removed earth, are six to 10 feet from the main hole and are quite hard to spot. After feeding, the chuck often suns himself on the earth mound at the main hole, usually facing the direction from which danger has most often come.

The Best Shot

There is one best shot in chuck hunting and that is in the skull. This is not always possible, but hold for the skull, neck, or the shoulder to break the spine. Otherwise he will often crawl back into the hole. If you are in doubt about your hold, make it on the high side. A shot which sails overhead will not frighten him much unless very wary and much shot at. A low shot will splatter dirt and plant matter on him, and that's that for half an hour to all day. If you see him again, he will usually appear at the spy hole, very slowly, with only his eyes visible.

At 200 yards or more, and especially in the beginning, it's hard to know if your shot went home. One of the ways you can tell is the characteristic "thunk" as the bullet connects. And if you made a kill shot, you'll also know by the tail, which I've never seen erect except then. In a kill shot it often jerks straight up in the air and wigwags violently for several seconds. I can't recall seeing the wigwag signal when the chuck wasn't dead on the spot. Do keep watching through the scope, as a second shot is sometimes possible after a first miss. At 200 yards or more, missed chucks often look curiously around, wondering just where that shot came from. On the other hand, if this particular animal has been shot at with any frequency, one miss and he is gone for the day.

After the chuck is shot, weighed, measured, studied, what do you do with him? If he is a big, old one, don't count on eating him. He'll be too strong. Not knowing, I once tried to parboil an old 12-pound male on the kitchen range. I failed to remove the scent glands and smelled up the kitchen. With these big ones, it is a waste of time to clean them; they should be disposed of in the field by burying or in some other way you know will suit the landowner. I prefer to get his okay and put the old ones in a remote hedgerow or fencerow for the possums and foxes. Usually in 48 hours, only the skin is left.

SAVAGE M110-C 22-250 with tested handloads has proven effective on chucks to long range. Its high velocity reduces trajectory problems.



Young chucks—say eight pounds or less—are another matter. They really are delicious, the equal of a choice rump roast. The four hams, front and back, are the major meat portions, and skinning these out is simple with little waste. They can be prepared using any rabbit recipe which has suited your family. I feel they are equal to, or better than, rabbit. The scent glands are found in the “armpits” of the front legs. They are a gray-brown tissue, flat and thin, irregular in shape and about the size of a quarter. Don’t forget them.

Whole Range of Elements

As you slowly walk from car to shooting position and then sit, scanning the fields, the whole range of elements of Pennsylvania’s fields and woods gradually reveal themselves. By quiet observation, you will see what would never be revealed to moving man. The feeding deer will show you how and by what paths they travel. Foxes trot along about their business, rabbits and pheasants come from nowhere, and the muskrat ventures out of his hole beside the farm pond. Plant life is in full display, very different now than in late fall or winter. One of the more pleasant experiences has been finding wild strawberry patches. There is also the priceless change of pace from a busy competitive job to the sunshine and quiet of the fields. More than once, careful observation of circling hawks has ended in an hour’s nap.

Some call it “chuck fever,” and if you catch it from this article, don’t be surprised. That was the purpose. When you do, you will want to know more, and do more, than this article could cover. When it comes to knowing all there is about the animal, *The World of the Woodchuck* by W. J. Schoonmaker, Lippincott, 1966, is by far the best book. It has outstanding photographs and is an extremely thorough and interesting treatment of the entire life cycle of the woodchuck.

Guide to Equipment

No one can sell you a woodchuck, but equipment is another matter. Advertisements and commercial claims are sometimes honest and conservative. Those 1000-yard “chuck buster” magazine articles *might* be reliable, but don’t count on it. More than a grain of salt should also be applied to “tavern” chuck hunters who can top anything you ever did, or saw, but somehow can never make it out next Saturday.

One truly reliable guide to equipment



SOMETIMES, IN GOOD woodchuck areas, you come back to your shooting rest lugging double handfuls of the critters. But it takes good estimation of range and wind, plus a tack-driving rifle, for the target is small and often partly hidden. A good scope is a necessity.

would be to know for sure what the experts are using personally. Surprisingly enough, this can be done without too much trouble. Read carefully the “American Rifleman” reports on results of the National Bench Rest Shooters Association matches. They include a detailed breakdown of the various components—barrel, action, scope, brass, primers, powder, bullet—and how many of each. This is as near a reliable indicator as you’ll be able to find. Look especially at the equipment used in the light, or limited, varmint class. This most closely approximates the woodchuck rig.

The experience behind this article was gained in Allegheny, Butler, and Chester Counties, which shows you don’t need to travel far from major cities to find success. Just give chuck hunting some serious thought—and come join us.

*It Was Early May, the Beginning of the First Spring Turkey Season
I'd Ever Been Afield in, but We had Just One Day—Actually
Only About Four Hours—to Find This . . .*

Gobbler in the Fog

By John Plowman, Jr.



JOHN PLOWMAN, displaying his Lycoming County spring gobbler, excitedly grabbed his hunting pal's gun to pose for this photo.

AS EXPECTED, the smell and sound of spring was all there while we climbed the hilly logging road toward the chosen hollow. The fog was there with us also, and thick, and I kept thinking to myself that this was one heck of a way to begin spring gobbler hunting. Rain I'm used to and can take, being an avid duck hunter, but to hunt in dense fog anywhere can be catastrophic. Especially in the mountains. Somewhere up ahead of us had to be a turkey, or so I prayed! But whether we would score depended on our advance planning and, of course, luck.

John and I had devoted the week before the hunt to checking out a series of topographical maps and consulting with other hunters, trying to determine likely wild turkey range in the area of Lycoming County we planned to hunt. Topo maps save a lot of walking for a lot of people, and we were grateful to have them.

John Fritchey of Harrisburg, a hunter of many seasons, and I were taking our initial spring hunt seriously. We were both oriented and well adjusted to the conditions of fall hunting during the regular seasons, and knew this would be different. With wilderness terrain present throughout much of its area, Lycoming County has proved to be one of the most productive regions of the state for turkey hunting.

In country such as this, then, John and I had the job of finding a gobbler in the right spot at the right time, within the approximate four-hour hunting time limit on the one day we had. Pretty tough odds in this century!

We were headquartered in the Gray's Run section north of Williamsport, and tried to choose a hunting area not too far removed from the comforts of a warm fire, dry clothes and some civilization. (We used to go all out for the rough and ready bit, but the years change that!) After narrowing down the likely coverts, a laurel-covered ridge far back along a deep hollow got our nod. This isolated spot appeared to have all the right conditions—streams, food, cover and rough terrain.

Getting up on the morning of the hunt was an ordeal. The entire valley

was socked in by fog which had rolled in during the night in the aftermath of recent rains. This is typical weather for the area, and is commonplace even in May. But like in-laws, you can't pick the weather, you just put up with it, so we got started by 5:30 a.m. and drove back toward the hollow as far as the Jeep would go. From there, a very long walk began.

Even at that hour, a May morning in northern Pennsylvania's woods is far from quiet. Rushing streams, scolding squirrels and songbirds sounding off made for a pleasant feeling—far better than routine life in the city. Walking in remote, relatively unspoiled places is usually mysterious, and we felt like the first to ever walk there. After an hour, John and I hadn't seen anything that resembled a wild turkey, so he began calling with his box call at five-minute intervals. Walk, stop, call and listen intently.

By the time we had moved far back into the laurel area, an hour or so must have elapsed without any answers. Just as I was wondering if we were doomed to disappointment, a turkey let go with a spine-tingling series of gobbles high up on the ridge to our right. Every hair on my head stood on end, and I guess the shivers started at that point. He kept answering John's call regularly, and each call made him sound meaner and bigger! By this time John was scrambling for cover, like me, and then two more birds joined in with their calls! It sounded as if one was on each side of us. The heavy fog made pinpointing the exact directions difficult.

Being surrounded by the gigantic-sounding critters didn't help matters, so we both found suitable concealment among the rocks and brush. Old John managed to get down among those famous Lycoming County boulders about 50 yards from my spot. His calling encouraged the birds to work closer, and all three kept answering like they were competing in the annual Turkey Calling Contest.

The fog had reduced visibility to less

than 75 yards, and we both strained to pick out the turkeys approaching us through the thick laurel. We had no success. After some 20 minutes of steady conversation, two of the birds gave up and went their separate ways, but the remaining gobbler kept coming. When he was really near, he shut up. Then moments later he started up again on our opposite side. No dummy, he apparently flew from one hillside to the other, just to check us out from all angles.

A Ghost in the Fog

John and I turned toward our prize, and finally the turkey moved into view, a ghost in the fog. This was my first experience with a call-in, and I'll never forget the event. The deer-scason shivers kept up, but somehow I was able to get my 12-gauge Magnum Winchester Model 12 in line with the bird. He strutted, puffed, danced and gobbled his way down the hill. With each act it looked as if he doubled his size by expanding his chest and spreading his tail and body feathers. This show was worth all the work and time so far invested.

I grumbled to myself that I had only my still camera and not the movie outfit and telephoto lens, which would have made some great footage possible. At 40 yards my equally excited partner finally put aside the call and carefully eased his 10-gauge double into shooting position.

I was ready for the inevitable, but the turkey had other ideas. He moved over toward John. Then he disappeared behind the thick ground cover and I lost all track of him. That hurt! Nevertheless, it had been John's effective calling that brought us this far, so I conceded that all was fair. What worried me was whether John had a clear crack at the gobbler.

Then the woods vibrated with an ear-splitting roar as John fired one load of No. 2s. At that instant the bird appeared, apparently knocked back into sight, feathers, leaves and brush flying all directions. I jumped up for

a better look, expecting to see John run to claim his first spring gobbler.

This was not to be the case. The turkey started moving, and John let go with the other barrel. We were both startled to see the bird take off, although erratically. He made it, though, and soared through the fog-shrouded trees in my direction. All of a sudden I realized I was going to get one slim chance to score myself. Instinctively I swung past the gobbler and pulled the trigger. That round only opened a new hole in the treetops above us. But the next was on target, and the big bird suddenly folded up and dropped.

Plummeted Down

The turkey plummeted down through the trees and hit ground zero out of my sight beyond a little rise. I raced through the woods, afraid he was running away and would be out of sight in moments. But he was motionless. When I found him, he was lying by a small run.

I just dropped down beside him and sat there shaking. I felt the same as when I stood over my first deer. After reading and listening to the accounts of other turkey hunters and how they scored, I realized that this hunt was most unusual. It seems that we went out of our way not to get a bird, and just lucked out.

The best explanation that John could render as to what happened to

him and his fearless cannon was that either he simply missed, or was the victim of blown patterns from the heavy shot. There was no doubt that the range and equipment were both satisfactory. In later dressing the bird out I found only two of his shot, and both were in non-vital areas of the body.

With the game draped over one shoulder in true frontier fashion, we moved out in search of another gobbler. But frequent calling and listening proved fruitless. There were no responses by quitting time at 10 a.m., so we headed back to the car and the reception committee waiting at camp. You are correct in assuming that we worked on a few answers to the questions that were sure to be asked.

By the time we got back, the fog was clearing off, with the promise of a beautiful afternoon for fishing and explaining. The other hunters were dragging their heels back into camp also, and none had made any contacts. When they saw my bird, the old line about "beginner's luck" was heard frequently, as well as the one about "see you found a blind one." *Ad infinitum*, *ad nauseam*.

We weighed the bird on an old, unreliable set of meat scales that had seen better days and bigger deer, and all I could register was 15 pounds. He was a young bird, so the beard didn't go much more than three inches, but I was satisfied.

Game Farms Welcome Visitors June 7

Open house programs will be held at all Game Commission Farms on Sunday, June 7, from 1 to 5 p.m. Game Commission personnel will conduct tours and explain how various game birds are hatched and reared. The six locations are: Eastern Game Farm, between Limerick and Schwenksville; Western Game Farm, three miles southeast of Cambridge Springs on Route 408; Loyalsock Game Farm, five miles north of Montoursville on Route 87; Wild Turkey Farm, 17 miles north of Montoursville between Barbours and Proctor; Wild Waterfowl Farm, two miles northwest of Geneva; Southwest Game Farm, three miles south of New Bethlehem near Distant, on Routes 28 and 66. Everyone is welcome.

Susquehanna River Waterfowl Program



By Nick Sisley

THE Susquehanna River Valley has long been a popular route for migratory waterfowl. A decade or two ago, it offered good goose hunting, and even better duck shooting. Heavy hunting pressure in the late 1950s and early 1960s changed this. Native populations were reduced and, due to heavy hunting, flight birds from the north kept flying southward with only a short stop.

Because of the Pennsylvania Game Commission's waterfowl management practices in the past few years, programs currently in use, and future management plans, this sad picture is changing. As in several other areas of the state, the future of waterfowl on the Susquehanna is a bright one.

The waterfowl manager is learning by leaps and bounds how to vastly improve these birds' resting, nesting, and feeding habitats. They have also learned how to start native flocks of geese. They are finding out how to

keep native birds in their rearing areas longer each fall, and they are learning how to persuade large flocks of migratory waterfowl to stop in Pennsylvania and stay for relatively long periods of time, some throughout the winter.

Not Cost Prohibitive

As a bonus, waterfowl management is not cost prohibitive. Once construction and development of a waterfowl area is completed, the maintenance of hundreds of acres can usually be accomplished by only two or three men.

The Game Commission is extensively managing three large Susquehanna River islands between New Buffalo and Selinsgrove. They are Clemson's, Sweigart's, and Hoover's Islands. Clemson's Island is a 129-acre tract just north of New Buffalo. Hunters should not be discouraged to find it is a refuge and closed to shooting. Duck and goose hunters must realize



PUMP HOOKED TO power takeoff of a farm tractor draws water from the Susquehanna to a pond several hundred yards away. Such pumping must be done regularly.

that refuges are one of the major management tools in improving waterfowl hunting, even though refuges for other game species may be of questionable value.

The waterfowl refuge gets a native population well under way if one is lacking or if birds are few and far between. Additionally, a refuge provides waterfowl a place to rest when overly pursued by hunters. If you fail to give waterfowl a refuge or place to rest and feed, they'll simply fly southward to an area where they can—in fact, hastening their migration.

Offer a refuge, however, and you'll keep them in the area longer. Supply needed foods and they'll linger longer. However, they'll not spend entire days, weeks or months on the refuge. Practically every day they will fly out to feed in secluded places on the river or nearby farm fields, offering shooting to hunters.

Clemson's has been diked with three ponds totaling about 10 acres. Water is pumped in a six-inch pipeline from the river as needed in the ponds. Because the water settles through the ground in these ponds, almost constant pumping is necessary. Cultivated crops are corn, wheat, fescue, ladino clover and Japanese millet.

In the spring of 1965, 10 mated

pairs of "pinioned" geese were stocked on Clemson's Island Refuge. By pinioning the wings of these geese, they are not able to fly. Accordingly, a fenced enclosure had to be constructed and maintained to hold the geese. By doing so, a native goose population has been started. These mated geese produce young that by instinct return to the general area where they were born—to, in turn, reproduce. However, it is in their *third year* that geese sexually mature to produce young. Consequently, it takes time to see the results. Already, geese are returning and nesting on the river, unquestionably as a result of the 10 mated pairs introduced to Clemson's in 1965. There had been no native geese in this immediate area since the early 1950s.

Each year the young goslings have been caught, banded, and wing clipped. Wing clipping is done by pruning the outer primaries. It incapacitates the young goslings' flying ability, but only until late summer or early fall when they go through their first molt and grow a new, usable set of outer primaries. Wing clipping keeps birds in the area. It eliminates any chance that they will fly off during the summer and insures even more that they will return to the general area the next spring and every year thereafter, eventually to choose a mate and have their own young.

In 1969, the young geese were not wing clipped, nor is it intended to do so in future years. The native goose population has been established, and it is believed that the refuge will insure that huntable populations will remain. In total, over 100 geese were clipped before ending the practice in 1969.

Nuisance Geese

In the spring of 1969, "nuisance" geese were received from the federal government (U. S. Fish and Wildlife Service). Some also were acquired by Game Commission personnel. When complaints are received about geese that are making a nuisance of them-

selves, usually in populated municipalities, they are live trapped and released in approved areas. The Game Commission had 35 of these birds to stock last spring. Many went to the refuge on Clemson's.

It is interesting to note that a new idea was tried with these geese. Research Division Chief Harvey Roberts suggested that Waterfowl Agent Bill Drasher use colored wing tabs on geese for identification. These tabs were similar to those which game biologists had used on wild turkeys. With a brightly colored tab on one wing, a goose need not be "in hand" to determine *where* it came from. Consequently, each nuisance goose stocked last year was leg banded, then a fluorescent green streamer was attached to be easily visible on the outside of the wing. Goslings produced by captive breeders on the islands in the Susquehanna were marked with blue tabs. Another waterfowl area in Pike County, the Shohola Waterfowl Management Area, also received nuisance geese with green wing markings. At the Middle Creek Management Area,

FOOD AND COVER CORPS foreman Charles Strup, Land Manager Ivan Dodd and Waterfowl Agent Bill Drasher discuss crops cultivated on Clemson's Island.



AFTER FLOODING of diked pond, this area will be a small island particularly suitable for a waterfowl nesting spot.

geese received orange bands. Now it can be determined if these geese travel to other areas and, if so, which ones. Undoubtedly, new areas with color-coded wing bands will be added in future years.

Ducks utilize the Clemson's Island Refuge, but it is managed mainly for geese. There is a significant difference in their needs. Geese will not land in an area of trees, brush, water plants, standing corn, etc. They require open areas before they will set wings and come down. Evidently, they like to see what dangers surround or can approach them. Conversely, ducks prefer marsh areas with numerous aquatic plants, brush or trees. They like to feel hidden and prefer the protection such habitat provides. Also, the primary food requirement for geese is pasture — grasses, ladino clover, etc. This is not so for ducks.

As Clemson's Island is managed for geese, the next large island upriver, Sweigart's, three miles north of Liverpool, is managed for ducks. It is not a refuge, but the future may demand that a portion of the island be set aside if the ducks need the added protection a refuge will provide.

Sweigart's totals 159 acres and has been diked to offer waterfowl three large ponds encompassing some 40 acres. The upstream dike can release

water to the middle pond and downstream ponds. Water is pumped in a ten-inch pipeline from the river.

Millet Spells Duck Food

Each pond was sown in Japanese millet (a favorite puddle duck food), then flooded to a six-inch to two-foot depth by pumping in the river water. Ducks love such an area. It is intended to maintain a constant water level until after the spring nesting season. In May the pumping stops and the water is let out of the ponds. The soil then is disced and millet seed sown. Sixty days later the millet will be mature and the ponds will be flooded. Additional crops of buckwheat and corn are also produced on Sweigart's Island.

Only 23 acres were cleared when the Game Commission acquired their option covering Sweigart's Island. Since then, 80 additional acres have been cleared to provide over 100 acres of flooded ponds and crops for waterfowl.

Bulldozed Nesting Sites

Plans call for many more nesting sites on Sweigart's ponds, for both ducks and geese. Small islands will be bulldozed in many places. Both ducks and geese will find them ideal for nesting sites. Most will be bulldozed in crosses or X's to provide four points

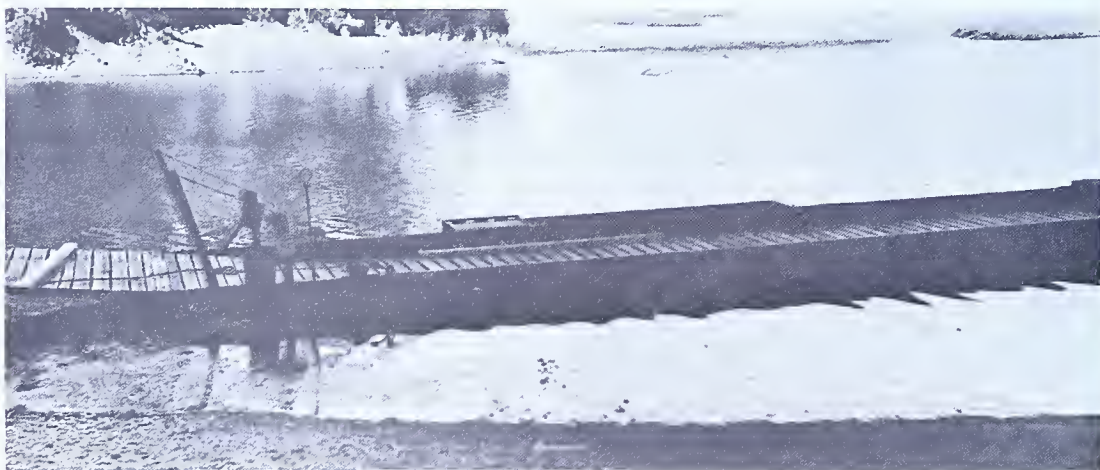
of land for good waterfowl nesting.

The next island upriver, Hoover's, is also a refuge. Hoover's Island is eight miles downstream from Sunbury. It totals 275 acres, of which 220 are cleared. It has a four-acre diked pond. Plans are to increase the pond's size in the future. Again, water must be pumped from the river to fill and maintain the pond level. It has been managed for waterfowl since 1961. Food crops are buckwheat, corn, wheat, oats, sorghum, millet, fescue and ladino clover. Like Clemson's, it is managed mainly for geese, but it is utilized by ducks in appreciable numbers. Just above Hoover's Island is Little Hoover's. This 53-acre island is cultivated by the Game Commission, and is a top waterfowl hunting site. Another good hunting spot is the wooded island north of Hoover Island, Silverwood. It comprises 50 acres, but is not cleared. The edges of Hoover's Island provide good bets for waterfowl hunters. There are many small islands and inlets here.

Water Pumping Problems

Pumping water from the river to the many diked ponds on these three islands is a constant problem. Pumps are machines, and breakdowns, though not frequent, do cause headaches. Silt, leaves, debris, ice and high water are the major worries of the land man-

THIS LARGE BARGE IS USED to transport heavy equipment to islands.





OPEN GRASS FIELDS ARE FAVORED by Canada geese, which distrust the tree-enclosed ponds liked by many ducks.

agers. Bill Fulmer, Land Manager on Hoover's Island, is experimenting with larger intake areas on the intake pipe. He claims that by having the water flow into the intake pipe, thus eliminating the sucking action, the many pumping problems associated with leaves and debris at the intake will be eliminated.

A water draw down after nesting season with subsequent soil discing and sowing millet seed is practiced not only on Sweigart's but on all three islands. On the two refuges managed mainly for geese, millet sowing is minimal. On Sweigart's, it is extensive.

Ivan Dodd, Land Manager on both Sweigart's and Clemson's Islands, estimates that dyed-in-the-wool waterfowl hunters in this area tripled their bag in 1968 and 1969. Local people, particularly duck and goose hunters, are amazed at the comeback waterfowl have made since the Game Commission instigated these recent management practices. However, the program is barely off the ground. It is expected that geese, mallards and black ducks will vastly increase in numbers as these waterfowl utilize the many unused nesting sites and find safety in the two refuges. Additionally, more is on the drawing board to improve habitat for native and migrant waterfowl.

But that's less than half the story. Our native waterfowl are now attracting the migratory ones in large numbers. Where previously these flight birds flew on southward, passing us by, they are now stopping to rest and feed with our native birds (all birds are naturally clannish), and they are utilizing the abundant food and cover and refuge that the Commission's management practices provide. In 1968, 5000 ducks were using Clemson's Island at the peak of migration. Up to 8000 ducks were on Hoover's Island at the same time. It is expected that these numbers will increase for some years to come.

Methods of Hunting

Three methods of hunting are used on the Susquehanna. The most common is building a blind and setting out decoys. It's an exciting way to hunt, especially when a flight of big mallards drop their feet and set their wings, intending to land just inside your spread.

Another method is canoe floating. One or two men silently float a canoe in close to shore or islands (ducks hide and feed in the brush and aquatic plants along shorelines), intending to jump birds. This system provides fast shooting. If two men hunt this way, only the man up front should shoot,

of course, for obvious safety reasons.

A third important hunting method is seen in few other waterfowl areas anymore—the sneak boat. It can produce fantastic results, but requires considerable effort and expense in both time and money—money to buy or construct a boat and for the numerous decoys which often, but not always, are used. Sneak boats are built low to the water. The hunter sits in the boat, which is paddled and steered with a foot-operated rudder. The usual procedure is to put out a large spread of decoys, then move a couple of hundred yards upstream. When waterfowl land among the decoys, the hunter goes after them in the sneak boat. When in range, he sits up and starts shooting after the waterfowl lift off the water.

River Open to Hunting

It's refreshing to find a minimum of "posted" land on the Susquehanna. The river bed is not owned by private interests or individuals. Anybody has the right to hunt the river. No one can

run you off and access is no problem. Both the Game and Fish Commissions maintain access points. Game Commission Food and Cover Corps employees float over two tons of millet seed down the Susquehanna each summer in canoes. From Hoover's Island all the way to Clark's Landing some 30 miles south, they sow this millet seed on sand bars. They do this job early in July when water levels are low. By mid-September (before the hunting season) the millet is ripe and attractive to waterfowl. Sowing two tons of seed by canoe, in low water, where wading is constantly necessary, is no easy job, as anyone who has helped can testify.

Raccoons can swim and they inhabit islands on the Susquehanna. They are a major predator of waterfowl eggs, but it has been discovered that island nesting waterfowl suffer far less predation loss than do birds nesting on stream or lake sides. This fact makes island waterfowl management even more important and beneficial.

Don't Shoot "Big Brown Birds"

Fewer than 1500 bald eagles nest south of the Canadian border, and not more than another 3500 winter in the 48 states but return to Canada or Alaska to nest, according to the National Audubon Society. This means that fewer than 5000 bald eagles—our national bird—are alive at this moment. And the number is decreasing. There are a number of reasons for this, including loss of nesting habitat, general disturbance by civilization and the effect of hard pesticides (ingested through their principal food, fish) on reproductive capacity. But of known causes for the decrease, shooting is one of the most important. In one study of 73 bald eagles found dead, cause of death could be determined in 44 cases. Of these 44 eagles, 31 had been shot. This is shocking, but also offers hope, for this is one cause of eagle decline which can be stopped through identification and proper attitude on the part of gunners. Until after its fourth year, the bald eagle looks to the casual eye like a "big brown hawk," as it does not yet have its white head feathers. And far too many people promiscuously shoot hawks. This is a mistake from any viewpoint. The eagle is protected by both federal and state law, and hawks do far more good than harm, regardless of the legal status of the species involved, so it is to everyone's benefit to refrain from shooting birds whose identification is questionable. If such a practice isn't followed, the big brown bird somebody shoots not too many years from now will be the last bald eagle in the world.

Native Wild Orchids

By Ken Calnon

BEAUTIFUL, gorgeous and bizarre are just a few of the adjectives used by people who have just seen a wild orchid for the first time. Certainly, they are all of these and much more. However, human words are inadequate in describing these lovely wildflowers.

Orchids are highly specialized flowers for insect pollination. The flower consists of two or three sepals and three petals. Two of the petals are lateral and the other is formed into an outstanding lower lip which has the special function of secreting nectar and attracting insects. This lip is very noticeable in the lady's-slippers.

I owe the seeing of my first woodland orchid to my father, an avid outdoorsman. When I was but a lad, Dad took me hiking along a mountain stream near our home. There he showed me my first moccasin flower. Its delicate, pink flower swayed gently in the shade of a tall hemlock. It was a beautiful sight, one I haven't forgotten to this day.

Some people uproot orchid plants and take them home, thinking they will look lovely growing in their backyard (if they do grow). However, orchids are very difficult to transplant; the soil conditions must be matched perfectly for the plant to thrive. Also, cultivation exposes the plant to such pests as parasitic fungi, slugs and mice.

Next to the plant "uprooters," the flower "picker" is the other human enemy of the orchid. *The picking or uprooting of any wildflowers must not be practiced!* There are areas where certain species of wildflowers have been literally destroyed, due to ruthless picking of the flowers and/or uprooting the plants to be taken home or even sold at public places. If our



Showy Orchis

grandchildren are to have wildflowers to see and enjoy in their natural habitat, we must conserve our wildflowers today!

Even taking seed capsules in the hope of raising plants from the seed is usually futile. Orchid seeds are of microscopic size and must have special conditions in which to germinate.

So leave orchid plants right where you find them. By leaving the plant undisturbed, you can go back next year and again behold its charm.

No, Penn's Woods would not be as lovely without the gay pink "balloons" of the moccasin flower or a dense colony of shiny, yellow lady's-slippers growing in a forest glade. Or consider the purple-fringed orchis with its feathery petals, gracing the banks of a mountain spring.

The following paragraphs describe



Yellow Lady's-Slipper

nine species of native woodland orchids found in Pennsylvania.

Yellow Lady's-Slipper
(*Cypripedium calceolus*)

To chance upon a colony of these lovely orchids growing on a shaded slope of mixed hardwoods is a real thrill for any wildlife lover. Although this is not a rare orchid, one doesn't find it every day. Their love of the deep forest makes them rather difficult to locate.

The plant is approximately two feet tall and very graceful. The leaves are alternate and broadly oval. Each leaf has deep parallel veins, which give it a "ridged" appearance.

The lower lip is an inflated slipper-like pouch, which has a very definite sheen, making it look waxed. The two lateral petals are spiraled and yellowish-brown in color. Two sepals are also attached to the blossom, one above, one below.

Moccasin Flower
(*Cypripedium acaule*)

The moccasin flower or pink lady's-



Moccasin Flower

slipper is one of our most common woodland orchids. Its charming pink slipper graces the forest in May. The flower varies in shades of pink and is veined with deeper reddish-pink. The slipper has a deep slit in it. The flower is supported by a somewhat hairy stem that rises from between two basal leaves which are hairy too.

While hunting moccasin flowers last year, I found a very large specimen. Luckily, I had a tape measure in my camera bag. The plant measured fully 15½ inches high; the pouch-like lip was two inches long and 1½ inches wide. The largest leaf was nine inches long. It was an excellent specimen.

"Sterile" plants, as I call them (plants that didn't bloom in the current year) are very common with moccasin flowers. I observed a huge colony of 70 plants and only 17 of the plants produced flowers.

Showy Orchis
(*Orehis spectabilis*)

The days of May are upon us when the showy orchis pushes forth its bi-colored flowers of rose-pink and white.



Yellow-Fringed Orchis



Ragged Fringed Orchis

The flower spike is certainly worthy of closer scrutiny. The rose-pink flower hoods and the very white lower lips, intermingled with the green, leaflike bracts, make an outstanding color contrast.

The oblong, basal leaves are deep green with a smooth, shiny finish. The showy orchis can be found in certain areas, keeping company with the moccasin flower and the yellow lady's-slipper. This orchis is fond of rich, deep forests and thickets. The entire plant averages five to nine inches in height, with leaves four to eight inches long.

Ragged Fringed Orchis
(*Habenaria lacera*)

To me this is one of the most lovely and strangely constructed orchids. Ragged fringed does not possess the bright colors of the yellow-fringed orchis or the showy orchis, but it is elegant in its own way. Basically, the flower raceme is medium green, with the individual flowers showing pale greenish-white. The lower lip is di-

vided into three segments, which give it a ragged appearance. A three-quarter-inch spur is fastened to the base of each flower. Ragged fringed and members of the rein orchid family are quite easily overlooked, because of their non-conspicuous colors. The mature plant is approximately one to two feet high and is rather leafy.

Yellow-Fringed Orchis
(*Habenaria ciliaris*)

This is another of our lovely and unusual native orchids. The plant is one to two feet in height, and leafy, with two well-formed oblong leaves attached along the lower stem in a clasping fashion. The remaining leaves become smaller toward the top of the plant.

The name yellow-fringed is somewhat misleading, because the color is more orange than yellow. Nevertheless, its beauty is outstanding, even if its name is not completely accurate.

The flower is cylindrical in arrangement and usually forms a densely packed raceme made up of many in-



Downy Rattlesnake Plantain

dividual flowers. Each individual flower has a strangely fringed tongue-like lower lip.

Two lateral petals are cupped and are on the same plane as the tongue. The top sepal forms an unusual canopy. Unfortunately, deer are very fond of eating this orchid.

Summer Coralroot
(*Corallorhiza maculata*)

The orchids belonging to the coralroot family are some of nature's strangelings. Coralroots are bizarre because they lack chlorophyll (green pigment) and the plant is leafless. Coralroots are difficult to find, because they blend well with the natural surroundings. Summer coralroot is the largest of the species, ranging from eight to 20 inches in height.

The stem is pinkish at the bottom, changing to a yellowish-tan about halfway up the stem. The flower raceme is rather large, about five inches long and one inch thick. The flowers are numerous, up to three-fourths inch long, and rather bronze in color. The



Autumn Coralroot

lip is white, spotted with deep reddish-purple. The name coralroot comes from the structure of the root system, which is a cluster of fleshy-branched, coral-like stems.

Nodding Ladies' Tresses
(*Spiranthes cernus*)

Not all of the orchids in Penn's Woods are large and gaudy. This dainty orchid is only eight to 10 inches high and is easily hidden by the taller plants and grasses that surround it. However, when you have located it, you will want to observe it more closely.

Note the two slender, basal leaves. Also a few very small leaves are fastened to the nearly naked upper stem. The flowers are arranged in an unusual double spiral. The individual flowers, which are white and very small, hang downward as if nodding, hence the name. It is the only member of the ladies' tresses on which the flowers "nod." Close inspection of the individual flower reveals a long lower lip, topped by four white, pointed



Nodding Ladies' Tresses



Summer Coralroot

petals and sepals. The spike is about $1\frac{1}{2}$ to two inches long. Single flowers average about five-sixteenths inch long.

Autumn Coralroot
(*Corallorhiza odontorhiza*)

You have to have a sharp eye to spot this elegant little orchid. It is only six to nine inches high. The flowers are very small and few in number. If you use your imagination a little, the flowers look somewhat like a face, with ears sticking up. The upper parts of the flowers are bronze or, rarely, yellow. The lip is white, spotted with purple. The clasp-like structures on the lower part of the stem are called seales.

Downy Rattlesnake Plantain
(*Goodyera pubescens*)

This orchid is one of our more common woodland species. It is generally

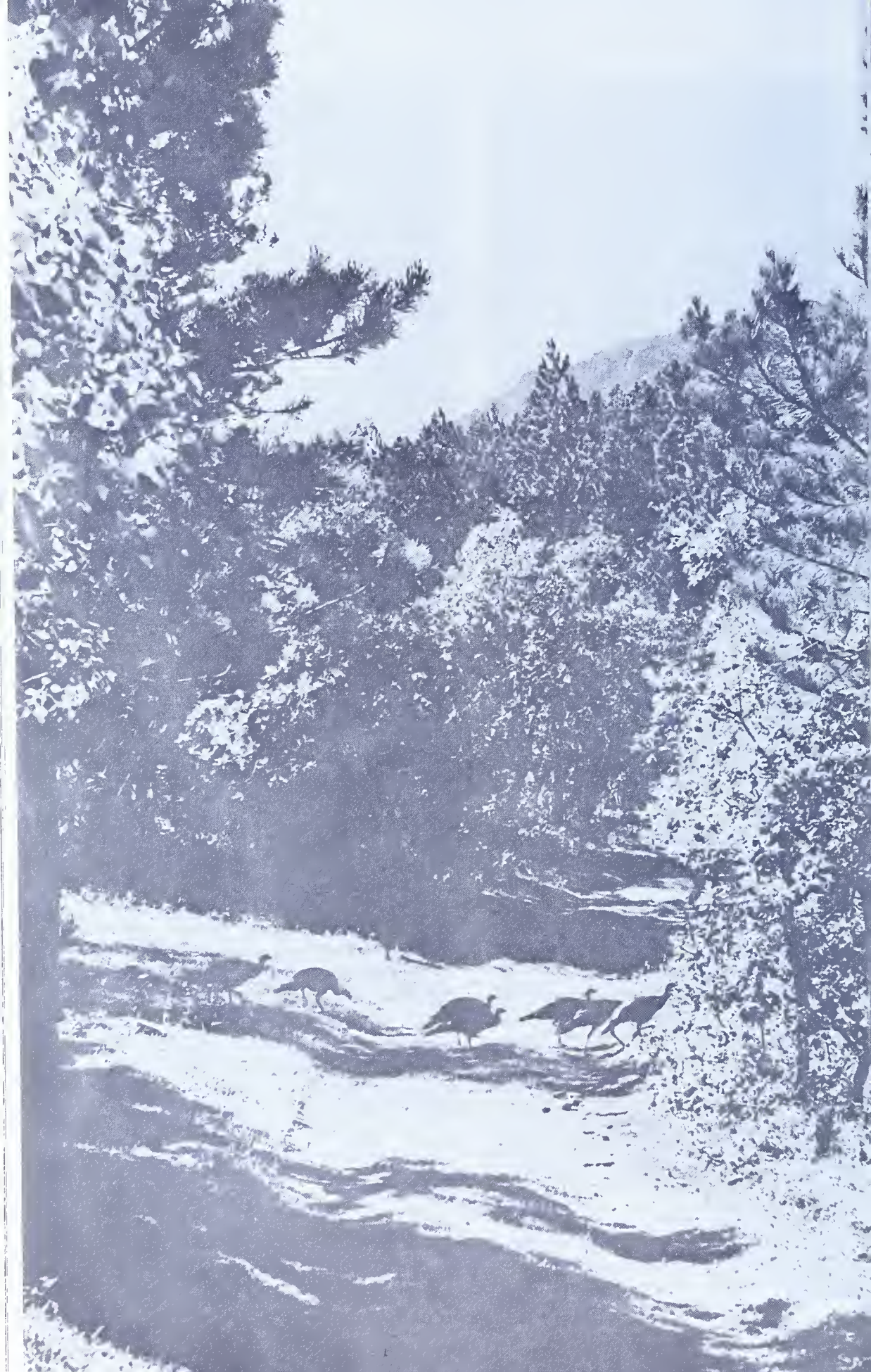
found growing in colonies, with its small leaves hidden among the leafy litter. The leaves are arranged in a basal rosette and remain green throughout the year. Each individual leaf is strangely marked with white veins, giving it a "rattlesnake-like" pattern, so they say.

The flower spike and stem are somewhat woolly. Plant height varies from six to 16 inches. The individual flowers are small, white and densely packed. The flowers open in typical fashion of spiked flowers, from bottom to top. The flower spike stays "good" for only two or three days, then the flowers at the bottom turn brown and are soon ready to set seeds. The white flowers are relished by deer, which often eat all the blooms from a single colony.

Yes, Penn's Woods are more lovely because of her native woodland orchids!

Navy, Lima, Green . . . ?

The brain of an opossum is extremely small. Its brain case can hold only 21 beans, by way of illustration, whereas the case of a raccoon holds 150 beans.



The Pennsylvania Wild Turkey

By Arnold H. Hayden and Gerald Wunz
PGC Wildlife Biologists

THE MID-MARCH dawn was cold and the snow lay deep on a mountainside in central Pennsylvania. A bright sun slowly worked its way up into a clear sky. The day was warmed by a strong southerly breeze. A snowflake clinging to the bark of a black cherry tree melted into a droplet of water. At noon, the long cold grip of winter was broken by a trickle of water dripping down a steep cliff. There was a stirring of life throughout the forest. A flock of hen turkeys for the first time in a month could scratch and feed along a spring run. Blades of green grass were growing in the warm water of the spring and the flock spent most of the afternoon feeding on this new growth.

There was a new arrival in the area. A single tom turkey appeared on the sidehill above the hens and fed in a spot swept free of snow by the winter's wind. The tom had wintered along a hemlock stream bottom several miles down the hollow. Now the urge of spring and the oncoming breeding season told him to search for a harem of hens. The tom approached the hens and suddenly the tracks in the snow became close together. Parallel marks in the snow indicated he was dragging his wing tips—the first sign of strutting. Spring was near and the reproductive cycle of the Pennsylvania wild turkey had begun.

The weather and increased length of daylight hours were factors in triggering this initial phase of the reproductive cycle. Turkeys may move several miles during the spring break-up of flocks to clearings, old fields and natural glades that are suitable for nesting and rearing a brood. Since the wild turkey is polygamous, a tom attempts to acquire a harem numbering four to seven hens. Competition for

these hens from other toms results in frequent fights.

By now there is a fatty deposit on the front of the breast and covering the crop sac of the tom. This fatty tissue is called a breast sponge. Spring gobbler hunters often mistake this normal growth for some type of tumor.

A tom attempts to woo the hen by strutting before her. A two-to-six-inch snood droops down from his forehead, his head is pulled back and his tail spread into a full fan. The white-topped bluish head and the swollen red neck wattles of the tom become very brilliant. The stillness of the early morning hours is broken by loud gobbling from this majestic bird as he attempts to maintain his territory and harem of hens.

Hen turkeys are bred in early April in northern Pennsylvania and slightly earlier in southern sections. By mid-April, hens begin deserting the toms during the early morning to lay their eggs. Early May finds most of the hens on their nests incubating their clutches. Gobbling by the tom increases in tempo during the early morning and will continue sporadically throughout much of the day in an attempt to entice hens back to him. Hens which have deserted their nests because of predation, disturbance or adverse weather return to these lonesome toms for mating before attempting to renest. These renesting attempts by hen turkeys can be very important to the overall population. Heavy snowfalls in late April in 1965 and again in 1967 disrupted the normal reproductive cycle on a study area in northern Pennsylvania. Observations indicated hens became confused and could not locate their nests and partially completed clutches. The birds renested and the majority of broods hatched

during mid-July. The normal hatching period extends from late May through early June.

In contrast, a six-inch snowfall on May 9, 1956, had no apparent effect on nesting. The hatching period was normal, indicating little disruption of the reproductive cycle occurred when the hens were in the process of incubation.

Nesting

A wild turkey nest is a simple depression in the leaves on the ground and may be located at the base of a tree, in a brushy area, in a patch of mountain laurel, among grape tangles, and between limbs of fallen trees. A turkey egg is beige in color with numerous small chestnut-colored spots and is slightly larger than a chicken egg. During the egg laying period, the hen turkey remains at the nest site just long enough to deposit an egg. A clutch of 11-14 eggs is laid over a two-week span before incubation is initiated by the hen. The tom takes no responsibility in hatching the eggs or in raising the young.

During the 28-day incubation period, the hen leaves the nest for short periods of time to feed. Egg fertility is usually 100 percent, but an egg or two may remain unhatched in the nest. The young poults are very precocious and leave the nest with the hen within a 24-hour period.

Game Commission studies indicate broods spend considerable time along field edges where insects are abundant in the grass, but they remain close to forest and shrub cover and a source of water. During midday hours on hot summer days, broods loaf and feed along moist, cool, grassy, partially shaded glades.

The hen is very cautious when she has a brood. She spends the majority of her time searching the surrounding terrain for danger with her extremely alert eyes. A hen will disperse her brood if disturbed and if necessary entice the intruder away with the broken wing ruse. She has been known

to attack the intruder if the poults are disturbed from their place of hiding. Under 10 days of age, the poults will scatter and hide in the grass and ferns when alerted by the hen. After this age, they will fly to low branches of bushes and trees and scatter from tree to tree if harassed. Following such an incident a hen will often wait an hour before calling and assembling her brood.

Broods begin assembling into larger groups when the poults are approximately three weeks of age. Hens that have nested in the same vicinity often meet and combine to form a multiple brood of two to four hens and 20-30 poults.

In early October, the food habits of the wild turkey change suddenly. The turkey hunter who has been watching a flock in the fields notices that they have disappeared. The blame falls to the predator, to that darn bow hunter and grouse hunter who has alerted the flocks and scared them off. Why have the turkeys vanished? Black cherry fruit, dogwood berries, blue beech seed, grapes, and many other seeds in the forest have ripened and begun falling to the ground. Turkey flocks may shift their range several miles to

Spring Gobbler Season Regulations

May 9 through May 16, 1970—Only bearded turkeys are legal game. Shooting hours are one-half hour before Sunrise until 10 a.m., prevailing time. Hunters should be out of the woods by 11 a.m., prevailing time. Hunting shall be by calling only. The use of dogs, electronic callers or organized drives is prohibited. The use of bows and arrows and shotguns with shot no larger than No. 2 is permitted. The use of rifles and pistols is prohibited. The use or possession of single projectile ammunition (except arrows) is prohibited. Only one turkey may be taken per hunter per license year; killing, or attempting to kill, a second turkey during a single license year is illegal.

utilize these highly preferred foods. At this time, the sportsman usually finds old toms and unsuccessful hens have formed small separate flocks or remain solitary. Other flocks consist of successful hens with their broods, frequently, including barren hens.

Hunters are usually very successful in harvesting turkeys if mast or seed crops are localized on certain ridges or in a particular hollow where flocks will concentrate. In contrast, they are frustrated when widespread seed crops of beechnuts and acorns influence turkeys to move daily to new areas to feed.

Game Commission banding studies of wild trapped turkeys indicate movements of one to five miles during the fall are common. The following table illustrates distances traveled by banded turkeys harvested by hunters:

<i>Airline miles from trap site</i>	<i>Percent of harvest</i>
0-1 Miles	40%
1-3 Miles	27%
3-5 Miles	23%
5-10 Miles	8%
10-20 Miles	2%

Band returns from wild trapped turkeys indicate very few turkeys survive beyond 4½ years of age. The age composition of wild trapped banded turkeys harvested by hunters on a study area in northcentral Pennsylvania is as follows:

<i>Age during fall hunting season</i>	<i>Percent of harvest</i>
Juvenile or young of year	57%
1½ years old	21%
2½ years old	10%
3½ years old	5%
4½ years old	6%
5½ years old	1%

Following the fall hunting season, flocks reassemble into new groups which may be divided according to sex and age. Old toms usually form small flocks or remain solitary. Young toms of the year may form a separate flock, while hens are in another group. Family groups of hens and poults

often remain together. A wintering population contains 20-25 percent adult toms, 10-15 percent sub-adult toms, and 60-65 percent hens.

A flock of turkeys will attempt to remain in an area that provided a mast or nut crop during the fall. In years of good beech, ash, and grape production, turkeys are not forced to dig through snow for food. These seeds fall into the snow throughout the winter. When the energy expended by a turkey to dig through the snow exceeds the nutrition obtained, he begins to look for another food source. Flocks break down into smaller units of three or four birds and disperse over a large area when the food supply is poor. This enables them to survive on small localized food sources.

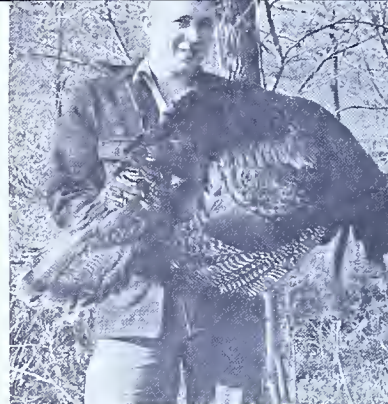
The best wild turkey wintering range contains open spring seeps adjacent to coniferous cover on a south-facing slope. Turkeys feed on buds, various plant and animal life in spring seeps, and on sensitive fern sporeheads which grow in the moist soil near the springs. Nutrition and food habit studies indicate sensitive fern sporeheads are the most important winter food and provide energy equal to that of corn.

Game Commission studies indicate a wild turkey can live without food of any type for about 15 days. The turkey can extend his life for the duration of the winter by feeding on buds, frozen apples, sensitive fern sporeheads, grapes, and various items from spring seeps.

Turkeys become increasingly aggressive toward each other as spring approaches. There is much pecking, calling, and flitting through the air as a bird attempts to establish dominance. An early March thaw warms the clear air and the bleak cold grip of winter is broken. An aggressive old tom breaks from his small restless winter flock and approaches a hen. His wing tips droop and his tail spreads into a large upright fan. The reproductive cycle of the wild turkey begins again.



DICK MITCHELL, JR., of Pittsburgh, above, bagged 21-lb. gobbler while hunting with Rep. John Laudadio in Westmoreland County.



HARVEY FOUSE, LEFT, and a large Huntingdon County gobbler.

Pennsylvania



MIKE HAGGERTY, above, Cairnbrook, with spring gobbler. Below, John Brumbaugh and daughter, Beverly, Mt. Wolfe, and his turkey. Right above, Jeff Caudell and son Hobert, Cockranville, with pair of 20-lb. gobblers. Right below, Alvin Welch, Cleveland, Ohio, and his Forest County bird.





his father, Fred, with their
bles.

na Turkeys



PAUL ZEDAC, left, Sparta, N. J., and his 21-lb. turkey.
Right, **Barry Neas**, Quakertown, with his big tom.



G. D. KIRKPATRICK, Asst. Chief, Law Enforcement, PGC, above, and Gilbert Anderson, Bellefonte, below, with their spring gobblers of 1969.



HENRY RIPPERT, JR., above, of Albion, and State Forester Jack Lingenfelter, below, with their trophy birds.



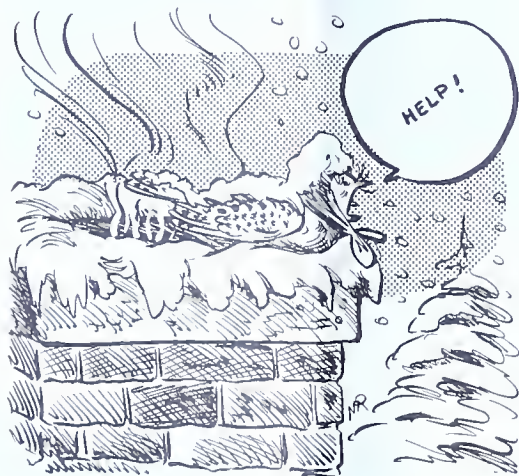


FIELD NOTES



Workers

HUNTINGDON COUNTY — The members of the Blairs Mills Sportsman's Club are not only proud of their achievements in the field of conservation but also in that of charity. Since 1953, this sportsman's club, in conjunction with the Blairs Mills Lions Club, has sponsored a dance and bake sale for the annual March of Dimes. In that time, they have raised a total of \$5899.42, which is divided among four counties. This year their efforts brought \$406 for this worthy cause.— District Game Protector C. E. James, Orbisonia.



Rushing the Season

BLAIR COUNTY—Returning home from a meeting one evening in February, I heard an odd call and could not believe my ears until I located a whippoorwill sitting on a chimney calling in a weak voice. The temperature was in the teens and no insect life of any kind near here for weeks.—District Game Protector P. R. Miller, Bellwood.

But It's Not Very Private

LEBANON COUNTY — Even in these modern times, who ever heard of an electrically heated birdhouse? Mrs. John Anspach has one, and the story is as follows: While mowing grass last spring with a rotary mower, a stone was thrown out and struck the ceiling-mounted porch light, breaking a hole in the outside enclosure. Not much time lapsed till a wren spotted the nesting place and raised a family within the enclosure. In early fall the wren departed for a warmer climate, leaving an unoccupied "lighthouse." Again, not much time lapsed till an English sparrow spotted the opening and began setting up housekeeping. When the Anspachs switch the light on, the sparrow can be seen walking around between the bulb and the outside enclosure.— District Game Protector P. A. Hilbert, Clcona.

The Good and the Bad

NORTHUMBERLAND COUNTY— John Bayler, a teacher in the Danville High School, and his father have mixed emotions about foxes. John helps an orchardist in his spare time. John and his father saw a red fox cavorting in the snow with a mouse in its mouth. John told his dad he liked the foxes around because they help hold down the mice crop in his employer's orchard. John's father took a different view. He had lost an entire flock of ducks, believed taken by a red fox. Which side are you on?—District Game Protector C. E. Laubach, Elysburg.

Always Some Spoilers . . .

WYOMING COUNTY — Evidence shows that snowmobiles are being used to chase deer on roads in Game Lands. The deer run on the road until about exhausted before plunging into the deep snow. In one instance, the deer was so exhausted it died where it broke through the crust when leaping from the road. One deer was shot by a snowmobile operator and left for wildcat bait. Also, some snowmobile operators are breaking down some of our turkey feeders so that deer will be able to get the corn. Corn was thrown considerable distances from the feeder. —Land Manager G. E. Sprankle, Me-shoppen.

And Some Workers

BRADFORD COUNTY—This year the deep snow made winter feeding seem impossible; but the Armenia Snowmobile Club came to my rescue. They supplied eight snow machines and drivers to haul the corn back to the feeders that were off the beaten path. Temperatures were below zero but spirits were high. After finishing up after the long, hard day, one of the club's members was heard saying, "It's about time we got some work out of these machines instead of just pleasure."—District Game Protector William Bower, Troy, Pa.

Visitors

PIKE COUNTY—For the first time, I have red crossbills using my bird feeder. These birds feed on the seeds in pine cones and have a bill adapted to taking them out. They are a northern bird and usually come this far south only during a severe winter or when there is a shortage of cones on the trees farther north.—District Game Protector D. McPeck, Matamoras.



Well, That's Something

BEDFORD COUNTY — While on patrol I was talking with a man who had just finished checking his muskrat traps. He told me he wasn't having much success due to the high water level of the streams. Many of his sets were destroyed by the high water. Finally he came to a set that had been sprung. His catch? One of his own traps from upstream that had been carried away by the high water.—District Game Protector G. B. Thomas, Woodbury.

Tough One to Lose

FOREST COUNTY—Recently a call about a crippled deer was sent to a deputy and after checking the area he found three Boy Scouts from Troop 434 of Monaca had been browse cutting in the area the day before. They had found a crippled deer in Tionesta Creek, so they made a chain with their bodies and rescued it from the ice where it had fallen into the creek. Even after such a daring rescue the deer had to be disposed of because of a broken leg and broken ribs, apparently from having been struck by a car previously.—District Game Protector C. E. Toombs, Tionesta.



Hate to Let Go

YORK COUNTY—Although we had a hard winter, I received reports of some buck deer still running at the end of February with their antlers intact.—District Game Protector R. L. Yeakel, Red Lion.

Grass Not Always Greener . . .

VENANGO COUNTY—One gentleman in Oil City hunted for years and never got a deer. He hunted all over the famous deer areas of our big woods country and became so disgusted that he quit hunting for a couple of years. Last year he decided to try it again in his retiring years. He went out in back of his house and killed a nice eight-point buck.—District Game Protector L. E. Yocum, Oil City.

Don't Blame 'Em

LUZERNE COUNTY — On February 26, a flock of approximately 200 robins landed in a field belonging to a Pete Reiner of Tannery during a snow-storm. Apparently they held a caucus and then flew to a warmer place for they have not been seen since.—Land Manager J. A. Booth, White Haven.

Determination Pays

ERIE COUNTY — I watched two red foxes hunting mice in a meadow. They were about 200 yards distant but through the binoculars they appeared quite close. The foxes covered the area very thoroughly and when a mouse was located they would spring, just like a cat, attempting to imprison the mouse with their front feet. About 20 attempts were made for each mouse taken. As a mouse hunter, the fox is a very beneficial animal to the farmer, helping to keep this destructive rodent under control.—District Game Protector E. Simpson, Union City.



The Biter Bit

BUTLER COUNTY — A beaver trapper came to my house early one morning with a large Conibear trap firmly attached to his left wrist. He had been attempting to set the trap when it suddenly caught him by the wrist. He couldn't remove it himself, so walked a good distance back to the car and drove to my house. After removing the trap, soaking his hand in warm water, and ascertaining there were no broken bones, I told the trapper that although he might be a new world's record size beaver, I didn't think anyone would pay much for his hide.—District Game Protector N. Weston, Boyers.

Perennial Problem

MONROE COUNTY—During January, 44 deer were lost to free roaming dogs in my half of Monroe County. These are known kills recorded by my deputies and myself. I wonder how many were lost to dogs that we know nothing about?—District Game Protector E. L. Taylor, Stroudsburg.

Building Up

JEFFERSON COUNTY—Among the beaver taken in my district this season was a 52-lb. animal trapped by a 14-year-old boy on the first night of opening date. This isn't unusual except that the successful trapper had only one trap to set, this one purchased with money he had earned trapping muskrats earlier in the season. — District Game Protector G. Miller, Sigel.

More "Objective" Reporting

PHILADELPHIA COUNTY — On December 5, 1969, a Philadelphia radio station aired an editorial which made hunting look unsafe. It was obvious they took a Game Commission news release on hunting accidents which occurred on the first two days of the deer season and painted a black picture. Due to the date of the airing, I did not hear the editorial and most of the local hunters were deer hunting. This was well timed because by the time the word got back to me, and I wrote for and received copies, it was well into February, and too late for a rebuttal. This same radio station (which must have access to our news releases) could do the sportsmen of this area a service if they would air a recent news release which follows very closely the editorial in the March issue of *GAME NEWS*.—District Game Protector H. T. Nolf, Telford.

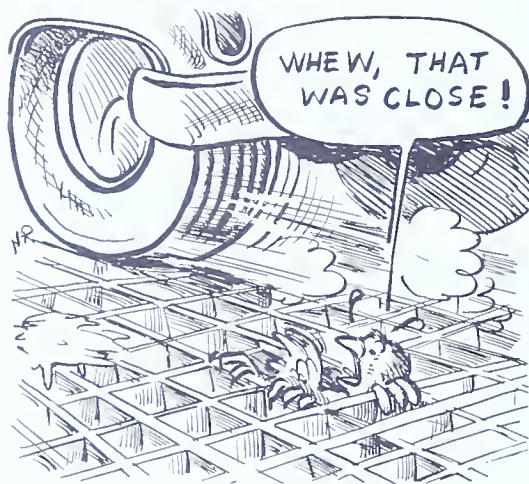
Live and Learn

BLAIR COUNTY — I believe we have several sportsmen in the area who have recently changed their minds concerning winter feeding of deer. I have had three come to me and make statements to the effect that, "I'm convinced you fellows must know what you are talking about on this winter feeding, as we have seen where deer walked past the corn we put out to spend their time in browse cuttings your crews have been making." If more of these people were to check the results of their efforts in this endeavor, I'm sure more would become convinced that our methods are best. —Land Manager J. L. DeLong, Roaring Spring.



Or Something . . .

HUNTINGDON COUNTY — On February 16, while returning from State Game Lands 112 in Mill Creek hollow, I noticed a small animal running across the deep snow. Not believing my eyes, I stopped for a better look and it was what I thought it was before I stopped — a good-size woodchuck. Due to the deep snow in this area, there was no food available for the little fellow, so he had to be out chasing his shadow.—Land Manager W. H. Shaffer, Huntingdon.



Just Ducky

SNYDER COUNTY—As I was driving across a steel bridge with a grille-type road surface, I noticed a sparrow picking at something on the bridge. As I approached the bird, it went down through the grille and reappeared after I passed over it. Much easier than flying away each time a car came over the bridge—District Game Protector K. W. Dale, Middleburg.

Freeloaders

WAYNE COUNTY—This winter has produced a non-tax deductible expense and was unforeseen. When starting to winter feed singbirds, I had about 15 evening grosbeaks at my headquarters. They readily adapted to the sunflower seed available. Then the flock grew and grew. As of January 1 and until the present time, about 80 to 85 grosbeaks visit us daily, plus nuthatches, chickadees, blue jays, etc. This amounts to a 50-lb. bag of sunflower seed per week, not to mention other feeds. So far I have used up 10 bags of seed, and at the price of seven Washingtons per bag, it's worse than having your mother-in-law come for a visit.—District Game Protector F. Weigelt, Galilee.

Let's All Look Again

CUMBERLAND COUNTY—One rainy day this past month I received a call that there was a highway-killed deer lying along the edge of a highway near my district line. Upon investigation I found a large black-and-tan dog. Several hours later Game Protector Gene Utech, who has the adjoining district, called to report someone had seen a deer lying along said highway in the same vicinity. Before the day was over, Utech and I had received numerous calls about this so-called dead deer. I am sure these people meant well, but possibly a little game identification might be in order before deer season next year. P.S. After receiving all of these calls, I made another trip to the area, and it still looked like a dog to me.—District Game Protector J. P. Filkosky, Mechanicsburg.

Lost Benefit

BLAIR COUNTY—For a few short months the countryside was clean and white, but now, as the snow starts to go, the trash and garbage start to show.—District Game Protector J. A. Lukas, Hollidaysburg.

How to Go, Barry

MERCER COUNTY—Recently I received a call from a lady who reported finding a duck with a crippled wing. Accompanied by Water Patrolman James Ansell, I went to investigate. We found a mallard duck in a ditch that had a few feathers on one wing messed up. We each took one side of the ditch and tried to corner the bird but it flew away with no effort at all. But the trip wasn't a complete waste of time, as the lady asked me where she could buy **GAME NEWS** and I promptly sold her a subscription.—District Game Protector B. K. Ray, Shcakleyville.



CONSERVATION NEWS



Fourth Highest Buck Harvest on Record in '69



Photo by Thad Bukowski

ROBERT MITCHELTREE, SR., bagged this fine 8-point buck in the Pulaski Bottoms near New Bedford. It was his thirteenth deer.



Photo by Thad Bukowski

ED STODALSKY of New Castle with his big 10-point taken at Muddy Creek near Moraine State Park, Butler County, in the 1969 season.

THE EFFORT to reduce the size of Pennsylvania's deer herd resulted in a reported total harvest of 116,684 whitetails during the 1969-70 seasons, including the fourth largest buck harvest on record, the Game Commission has announced.

There were 59,923 antlered deer reported taken, and 56,761 hunters reported bagging antlerless whitetails.

The buck harvest was exceeded only in 1967, when the record 78,268 were tagged; in 1965, when hunters reported taking 65,150; and in 1968, when 62,038 were bagged.

The total harvest was the seventh largest since record-keeping began in 1915, and the antlerless figure was the ninth largest in the books.

Potter County, traditionally the state's deer hunting center, led all counties in all categories of whitetail harvest. Hunters reported taking 5618 antlerless deer and 3709 bucks during the past seasons, for a total harvest of 9327.

Other leading counties in buck harvest were Clearfield, 2364; Tioga, 2359; Bradford, 2313; and Lycoming, 2218. Top antlerless harvests were recorded in Tioga, 3532; Clearfield, 2522; Elk, 2400; and McKean, 2308. After Potter, leaders in total harvest were Tioga, 5891; Clearfield, 4886; and Elk and McKean, 4406 each.

The buck total included 45,426 with three or more points and 14,497 spikes, while the antlerless figure in-

cluded 46,452 females and 10,309 males.

Resident hunters reported taking 51,712 bucks and 55,288 antlerless deer, while nonresidents reported taking 8211 bucks and 1473 antlerless whitetails.

It is to be emphasized that all figures are based on reports filed by successful hunters. Surveys in the past have shown that only about three-quarters of the successful deer hunters report their kills as required by law.

For those who question the figures, the cards are all on file in the Harrisburg office of the Game Commission, and may be examined and counted by anyone.

Again this year, there have been the usual complaints from hunters during and following the deer seasons about the alleged scarcity of deer. In the late 1950s, when the Game Commission's current deer management program was launched, it was indicated that annual harvests of 35,000 to 40,000 bucks would provide reasonably good hunting and encourage range and herd improvements.

However, several years of inade-

quate harvests of antlerless deer, usually due to adverse weather conditions during the hunting seasons, and a succession of unusually mild winters and a resultant decrease in winter mortality, allowed the herd to increase. Since there were too many deer for the quality of the habitat and the desired range and herd improvement could not be realized, the Game Commission designed seasons and allocations to reduce the population.

Hunters will have to be satisfied with less deer. The past winter provided a good example of the wisdom of recent antlerless harvests to reduce herd size. Winter losses were substantial in some areas but certainly well below the magnitude which would have occurred without the high harvests of antlerless deer the last three seasons.

With large areas of the state supporting timber stands which now produce little in the way of year-round deer food, more acres will be required to sustain each deer and hence deer densities and total numbers will be below those of the recent past.

Big Game Records Booklet Available

The Game Commission's measuring programs for white-tailed deer, as carried out in 1965, 1967 and 1969, with black bear skulls also being scored in the last program, created much interest in Pennsylvania big game trophies. In order that hunters and other interested persons might have the information collected during these three programs available in a single source, all trophies scored during those three sessions were assembled into one master list, and this, plus much related material, is now offered in a 6 x 9, 96-page booklet. An impressive section is a 15-page unit showing photographs of dozens of the highest-scoring trophies ever taken in Pennsylvania. In addition, the stories describing how many of these deer were bagged are told by the successful hunters. Other articles give authentic information on the necessity for managing our deer herd, year-by-year totals of all deer and bear taken in Pennsylvania since record keeping began, the actual scoring charts of the best trophies ever collected in Pennsylvania, and suggestions on equipment for such hunting. Price, \$1 delivered from the Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa. 17120.



Leo A. Luttringer

Leo Luttringer Dies

LEO A. LUTTRINGER of Mechanicsburg, first editor of *GAME NEWS* and a retired chief of the Division of Information and Education, died on March 18, 1970. He was 68.

Luttringer, a self-taught conservationist, retired in 1961 after nearly 40 years' employment with the Pennsylvania Game Commission. He was born in Harrisburg and attended Harrisburg Tech High School, the Harrisburg Academy and the School of Commerce. During World War I, Luttringer served in France with the 28th Division. He took part in three campaigns.

Luttringer, who had been in ill health for some years, was well known in the conservation field for his writing, lecturing and photography. He was the first secretary of the Wildlife Society of America, a founder of the American Association for Conservation Education and its first secretary, first editor of *Wildlife Society News*, and a

recipient in 1956 of the Nash Conservation Award for "exceptional service to the cause of conservation."

After his military service, Luttringer came to work for the Game Commission. He soon was made assistant to Dr. George M. Sutton, eminent ornithologist and bird artist, a background which proved helpful when he later wrote *Pennsylvania Birdlife*, one of the Game Commission's most popular publications, now going into its sixth edition. In 1923, Luttringer became the first director of the Bureau of Public Relations, now the Division of Information and Education.

With Ross Leffler, Luttringer established *GAME NEWS* and served as editor for a quarter of a century. In 1937, he went on an expedition to Oklahoma to search for the ivory-billed woodpecker, and the following year took part in the "last raft" expedition down the Susquehanna. This trip was to commemorate the old-time logging rafts that once filled the Susquehanna. However, the raft smashed into a bridge at Muncy and several people were killed. Luttringer survived and photographed the tragedy.

In the field of outdoor education, Luttringer helped establish the Conservation Education Teachers Laboratory at Pennsylvania State University, organized a program to uncover and preserve historical facts about conservation in Pennsylvania, and originated the Conservation Award for competitive conservation projects for Scouts, 4H Clubs and Future Farmers of America.

EDITORIAL . . .

(Continued from Page 1)

no longer afford. Unfortunately, many such individuals are still with us. Our only defense is vigilance, publicity for their actions, and the willingness to fight them to the end. This can be drudgery but it's worthwhile, for much depends on it. For instance, human survival.—*Bob Bell*

Student Officer Class Selected

THE Pennsylvania Game Commission has announced the names of 24 men selected for the 14th Student Officer Class. The 24 were chosen from 435 applicants after a series of written, oral and physical examinations, and began classes on March 31.

Members of the group will undergo 11 months of intensive training at the Ross Leffler School of Conservation near Brockway in Jefferson County. Included in the school program are subjects such as wildlife management, public relations, game and fish laws, legal procedure, animal and bird identification, land management practices, etc.

In addition to the academic training, students are assigned to work with field personnel during periods of peak activity. Following graduation next year, the trainees will be assigned to Game Protector or Land Manager positions throughout the state.

Members of the new class follow:

Joseph R. Anderson, 1048 Roosevelt Avenue, York.

Ronald J. Askey, Frenchville Road, Frenchville.

James R. Beard, 819 E. Maple Street, Annville.

James G. Bowers, Rural Route 1, DuBois.

Robert L. Clawson, 2925 N. George Street, York.

James Deniker, RD 4, Box 211B, Grove City.

Telford L. Fox, Box 42, Knox.

Raymond E. Gosnell, Rural Route 2, Greenville.

Howard L. Harshaw, Rural Route 1, Espyville.

Lawrence P. Heade, 133 Heck Road, Sarver.

John Heider, 121 Oak Street, Old Forge.

Dennis E. Jones, Rural Route 1, New Freedom.

Wayne A. Lugaila, 215B Washington Avenue, Midway.

Andrew C. Martin, 9347 Pannier Road, Pittsburgh.

Wayne A. McGinness, Box 284, McElhattan.

George F. Mock, 322 Broad Street, Tamaqua.

David E. Overcash, Mt. Vernon Terrace, Apt. 54, Waynesboro.

Gary W. Packard, 491 Troy Street, Canton.

James F. Ramsey, RD 2, Box 25, Ligonier.

Harry E. Richards, Rural Route 4, Waterford.

Bernard J. Schmader, RD 2, Box 102, Lucinda.

John J. Snyder, Rural Route 2, Selinsgrove.

Claude B. Wright, 419 Mower Drive, Pittsburgh.

Kenneth M. Zinn, Rural Route 3, Newville.

Bobcat Now Protected

Legislation designating the bobcat or wildcat a game animal in Pennsylvania was signed by Gov. Raymond P. Shafer on March 9.

The governor called the legislation "another important step in wildlife management in Pennsylvania and a further manifestation of changing attitudes and our great concern for our surroundings."

He said, "Every effort must be advanced to avoid the loss of any species from our outdoor scene."

After the bounty on bobcats was removed in 1937 the population did not increase and more recently numbers have further declined. With the bobcat classified as a game animal, the Game Commission now can provide complete protection through a closed season and should the population recover, regulate the taking of bobcats.

Deer Herd Studied

Have you recently seen a Game Commission officer, perhaps attired in coveralls, along the road, wearing surgical gloves? No, he's not qualified to perform an appendectomy, but he is engaged in an activity that is often overlooked or perhaps even misunderstood. It's one of many programs to keep tabs on Pennsylvania's deer herd throughout the year.

Perhaps you've seen this officer remove a jawbone from a whitetail struck and killed by a vehicle on the highway. That jawbone contains teeth which, when examined, indicate the age of the deer almost to the month.

Or perhaps the officer has removed an unborn fawn or two or three from a crash victim for examination and measurement. This provides information on reproduction and breeding biology.

Or possibly the officer is performing an autopsy. This will supply information on the general physical condition of the whitetail, whether disease or parasites might be present, etc.

With officers all over the state engaged in such activity involving thousands of animals throughout the year, a volume of valuable data is collected which presents a clearer picture of the deer herd—data which is much more reliable than that gained from observations made during a casual walk through the forests or a few trips by vehicle on back roads.

The information gives the Game Commission a continuing insight into the status of the herd, and makes it possible to quickly detect any changes. It all adds up to a scientific approach to the management of this important resource.

Give

GAME NEWS

To a Friend . . .



Photo by Leonard Lee Rue, III

SHOWN above is a nutria.

Importing Nutrias Illegal

The Pennsylvania Game Commission reminds residents of the Commonwealth that the importation and/or release of nutrias in Pennsylvania is illegal.

Nutrias are commonly called "South American beavers." This large rodent is comparable in size and appearance to our Pennsylvania beaver, except that it has a ratlike tail. In states where this exotic animal has been released in the wild, they have destroyed the natural habitat for muskrats and wild waterfowl.

Recent advertisements in out-of-state publications reaching Pennsylvania are again offering these animals for sale. They promise quick and easy profits for raising nutrias in captivity.

Actually, nutrias are now worth even less than they were in October, 1957, when the Game Commission prohibited importation and/or release of these animals. In the past month a New York City fur broker quoted \$3.50 for large and extra-large nutria skins. The smaller pelts sold for \$1.50.

The Game Commission urges all who may be considering fur ranching, and especially nutria ranching, to first consult their local Chamber of Commerce or write the National Better Business Bureau, Inc., Chrysler Building, New York, N. Y., before making any investment.

New Wildlife Development Area

ALLEGHENY National Forest and Pennsylvania Game Commission officials have joined hands in a cooperative development project that should be of great benefit to sportsmen and the general public. The joint venture will extensively develop 9000 acres of Allegheny National Forest lands on the border of Forest and Elk Counties for the production of upland game and waterfowl.

The lands involved in this 9000-acre development consist of poorly drained soils which are not well suited for timber production but are a "natural" for the development of good grouse, turkey, deer and waterfowl habitat. Located just southeast of Marienville, the tract is known as the Buzzard Swamp Wildlife Development Area.

In the cooperative effort, the Allegheny National Forest has made available the lands, while the Pennsylvania Game Commission is doing the actual development work with Project 500 funds. Both agencies are providing planning and technical assistance.

About 6500 acres of the project will be managed primarily for upland game, while the remaining 2500 acres will be essentially developed for both upland game and waterfowl.

The principal waterfowl development will consist of four impoundments. Two impoundments of 7.8 and 7.3 acres, respectively, will be located on Crooked Run. Another of 22.2 acres will be located on Muddy Fork, and the fourth, 66.3 acres in size, will be built at the confluence of the two creeks.

In addition, work is under way on an .85-mile stretch of access road to the impoundment areas.

Prior to the 1950s there were only a few beaver dams in the vicinity to serve as wildlife habitat. Then small dams and ponds were built in nearby open, wet sections at the headwaters of the drainage areas, attracting additional waterfowl and upland game.

The experience gained from these small impoundments was sufficient to encourage a larger development program.

Officers of the Pennsylvania Game Commission and Allegheny National Forest completed plans for the project more than two years ago. Formal Game Commission approval was given to the program, which is being funded through Project 500 and the Game Fund, in April of 1968. Proposals submitted to the State Planning Board were approved in September, 1968, and bids for construction were opened last June. The bid totaled \$389,544. Construction work should be completed sometime this year.

The four impoundments are designed to permit drawdowns for the development of desirable aquatic growth within the impounded areas.

In addition, an attempt will be made to provide fishing opportunities in areas which will not conflict with good waterfowl management. Public hunting will be permitted in the development area. Provisions will also be made for public viewing of waterfowl nesting and feeding areas.

After the impoundments have been completed, additional work will be done to improve habitat conditions. Feeding areas will be established adjacent to the impoundments for waterfowl; however, they will also be beneficial to several other wildlife species. Forest cuttings will be made to encourage sprout and seedling growth, to release existing shrubs, and to make browse available to deer. The Game Commission and Allegheny National Forest will cooperate in planting conifers for future cover. Conifers will be fenced to ensure the success and growth of the plantations.

The project is the result of extensive groundwork by Gordon Ray, forest ranger of the Marienville Ranger District, and Duane Gross, Forest County District Game Protector.



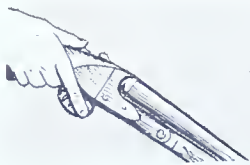
CHARLES H. SHULER, JR., Highland Park, Camp Hill, with 300-lb. black bear taken in Sullivan County near Elk Grove, on the first day of the 1969 season. The bear was shot at 85 yards with a 308.



EARL HERRING of Donaldson with two blanket beavers trapped in the mill race near Pillow, Dauphin County, in February, 1970. One weighed 50 lbs., the other 45 lbs.

Teachers' Conservation Laboratory at Penn State

The twenty-fifth annual Pennsylvania Conservation Education Laboratory for teachers will be held at Pennsylvania State University in State College this summer, July 12 to July 31. Here elementary and secondary school-teachers can take part in a program based on soil, water, forest, wildlife and mineral conservation. Field trips will point up various aspects of the environmental study. Participating organizations include the Pennsylvania Game Commission, Fish Commission, Department of Forests and Waters, U. S. Soil Conservation Service, Department of Education and many others. The laboratory is open to both men and women. Admission requirements are the same as those in effect for students enrolling in general courses during the summer term. Three credits will be granted for work satisfactorily completed in the three-week session. Inquiries regarding tuition, other charges, etc., should be sent to Dr. H. Seymour Fowler, Pennsylvania State University, 167 Chambers Building, University Park, Pa. 16802.



HUNTER SAFETY EDUCATION



Let's Talk Turkey

WHILE encouraging the use of fluorescent orange in a hunter safety class, one hunter stated, "I would sooner be shot than wear that stuff while hunting turkeys." Well, brother, press your luck long enough and that's just what may happen. Pennsylvania's hunting accident statistics bear us out.

Ridiculous as that man's statement may sound, many hunters, not just turkey hunters, feel this way about wearing any bright color. Turkey hunters especially have this aversion about being seen when hunting this wary bird, sometimes called the black ghost of the forest. He is a real magician at deception. Now you see him, now you don't. Many old-timers say that when you have a turkey coming your way, you don't even want to blink an eye.

All of this does not alter our thinking about encouraging every hunter to wear fluorescent orange. Granted, a turkey may be sharp enough to detect the blinking of an eye and especially other pronounced movement, but color is something else. Just how color blind birds or animals are, or how reflective certain colors are to birds and animals, is not really the issue.

Wear Camouflage?

What we are really talking about is your safety while hunting. More specifically, let's talk about turkey hunting. We just can't buy this hunter's, or any hunter's, belief that camouflage or obscurity is the best. There are two points of view relative to the safest hunting apparel to wear in the field; first, that a person should wear camou-

flage, on the theory that, "If they can't see you, they can't shoot you"; second, that the hunter should wear clothing of the most readily identifiable color so that he can easily be seen.

If we believe in sound reasoning, the first point of view is fallacious. Since movement is always involved in hunting, and since movement cannot be camouflaged, any hunter is always in some danger of being mistaken for game when wearing camouflage. Hunting accidents tell us also that some hunters shoot at sound and at what they believe they see, rather than what actually is seen.

One Hunter's Report

One hunter reported, "I was coming up over the point of the mountain when I heard a turkey call, so I waited a while. I then got out my turkey call. About that time I heard another call, so I gave two calls with mine. At the same time I saw something move in the laurel. So I moved up a little closer behind a tree. About 35 feet, it moved again and I could still see a little of it yet so I shot. Then I heard someone shout, 'I'm hit!' So I ran over and there was a man sitting in the laurel with dark clothing."

Another hunter explained that he was sitting in an old tree-fall using a turkey call, and was getting an answer when a hunter walked between him and where the turkey was calling. "Not knowing just what to do, I stopped calling and the hunter stepped to the right of me. After a few minutes I moved to put my glass on him. Well, you can imagine my surprise and what I was thinking when,

at that same moment, I was looking down the barrel of a gun. Anyway it was too late to move. All I remember was smoke, and the stinging sensation from the shot hitting me on the hands and face."

The hunter who inflicted the injury explained "I came over a hill into some large hemlock trees, and heard a turkey calling. I dropped behind a tree and started running my call. Just then a turkey was going to my right, but he went behind some thick brush. I ran my call and what I thought was the turkey answered. I then saw what I thought was the turkey coming out from behind a tree."

"You Got Me"

Just put yourself in his position. The next thing after the hunter fired was, "You got me." Most certainly he took no second chance to reevaluate what he thought he saw. Then again, the situation was not helped by failure of the victim to identify himself or position by the wearing of bright-colored clothing.

Let us qualify our thinking of the last statement. No defense is being offered for anyone who shoots another in mistake for game. However, it does bring us back to our turkey hunter's statement that he would sooner be shot than wear that fluorescent colored clothing. I doubt if anyone who has been wounded by gunfire would make that statement.

We think the accidents you have just read about verify what may happen—and show why we have strong feelings about wearing that orange-colored stuff. Accidents definitely can be decreased if every hunter uses fluorescent orange.

With more hunters afield, it was our observation during the past hunting season that, on a percentage basis, less fluorescent orange was being used than formerly. Perhaps this was because some orange items available in stores did not have a true fluorescent color. Dealers reported that these were not moving. It is believed that this

lack of demand has turned the attention of the manufacturers in question toward developing a true fluorescent orange color. Some manufacturers have been supplying the proper color, of course.

All of this should add up to more hunters using the easiest recognized color under all light conditions—but it hasn't. The majority of hunters, especially deer hunters, during the past year failed to wear fluorescent orange or any bright color. It is discouraging to see the great numbers of hunters using camouflage clothing or drab gray, brown or red—a shade that is not red at all. In some instances, we observed women hunters wearing full fluorescent orange coats while their male companions displayed no bright color. This is a switch, for in nature it is the male of the species that sports the bright colors. Then again we probably feel more protective of the female, and encourage safety precautions for the little woman, but it appears to be a different situation with the male hunter.

Our observation also noted that many junior license hunters did not identify themselves with any bright color. It was especially noted that when young hunters were accompanied by an adult during deer season, both failed to wear bright clothing. Undoubtedly, a young hunter is influenced by an older hunter's thinking, especially if it's Dad who says "we are not wearing bright color for the deer to see us."

The Safest Color

The hunter who uses fluorescent orange or observes its reflective quality does not have to be sold. It may be of some small encouragement that more small game hunters wear this recognized safest color than big game hunters. In either case, small and big game hunting accident statistics show a need for wearing a brighter, more reflective color while hunting. How about it? "Let's talk turkey — *wear fluorescent orange—it shouts.*"

Pennsylvania Hunting Accidents, 1969

CASUALTY		AGES OF VICTIMS	
Fatal		Under 12 years of age	11
Self-Inflicted	9	12 to 15 years of age	66
Inflicted by others	19	16 to 20 years of age	95
Non-Fatal		21 years of age and over	306
Self-Inflicted	120	Age not reported	1
Inflicted by others	331		
SPORTING ARM USED		AGES OF PERSONS INFLECTING INJURY	
Shotgun		12 to 15 years of age	41
Self-Inflicted	53	16 to 20 years of age	52
Inflicted by others	280	21 years of age and over	138
Rifle		Age not reported	119
Self-Inflicted	39		
Inflicted by others	63		
Revolvers		CASUALTY CAUSES	
Self-Inflicted	26	Sporting Arm in dangerous position	22
Inflicted by others	4	Accidental discharge	111
Bow and Arrow		Ricochet or stray	61
Self-Inflicted	11	Victim in line of fire	222
Inflicted by others	3	Hunter slipped and/or fell	22
		Hunter dropped sporting arm	7
		Shot in mistake for game	24
		Sporting arm defective	9
		Using sporting arm as club	1
BIRD OR ANIMAL HUNTED		PLACE OF ACCIDENT	
Upland Small Game	343	Fields	130
Deer	86	Brush	118
Bear	2	Open Woodland	80
Woodchuck	27	Dense Woodland	104
Others	21	Water	5
SAFETY COLOR WORN BY VICTIMS		Conveyance	3
Fluorescent Orange	75	Camp	12
Red	211	Woods Road or Public Highway	27
Yellow	17		
None	176		

SUMMARY OF ALL CLASSES OF 1969 SHOOTING CASUALTIES

FATAL.....	28	NON-FATAL.....	451	TOTAL.....	479
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1969 HUNTING CASUALTIES COMPARED WITH PREVIOUS TEN-YEAR PERIOD

	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	TOTAL	10 YR.AVG.	1969
FATAL	17	27	23	16	18	17	30	15	24	25	212(A)	21.2	28
NON-FATAL	496	525	454	435	341	412	492	471	456	505	4587(B)	458.7	451

(A) Of this total 26.9 were self-inflicted and 73.1 inflicted by others.

(B) Of this total 23.9 were self-inflicted and 76.1 inflicted by others.

GAME NEWS Binders Available

Response to heavy public demand has produced a binder capable of holding a full year's issues of Pennsylvania GAME NEWS, the official monthly publication of the Game Commission. Many persons have complete files of the magazine dating back over a number of years, and have requested binders in which to file the issues. Binders which hold twelve copies of the publication are now available for \$2 each (\$1.88 plus 12c tax) from the six field division offices of the Game Commission or from the Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa. 17120. The price includes cost of handling and postage.



A HOT DOG IS GOOD ALONE, but it's much better when offered with chips, green salad, cottage cheese and other goodies.

It Doesn't Have to Be Plain

By Les Rountree

CAMPERS are hungry people. I'll admit that statement does not start this month's column off in a very poetic manner, but it is a fact. Just being outdoors for an extended period is bound to do something to one's taste buds and isn't it strange that camp food always seems to be remembered . . . even if it's just ordinary meat and potatoes. Don't get me wrong, there's nothing wrong with meat and potatoes, I meant it only as a figure of speech. What I'm getting around to is that since camp life sharpens the appetite, why not shoot the works and try to make your outdoor fare one step better than it was last year? Sure, the hamburger, canned beans and luncheon meat tasted great,

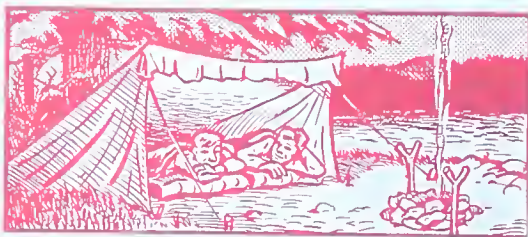
but wouldn't a pot of homemade chili be better once in awhile, or how about an egg omelet or some fruit pancakes?

Some items of food like bread, meat and milk, or a local specialty such as strawberries or mushrooms, can be picked up on the way and they should be, of course, to insure freshness. But the staples and the day to day necessities should be planned out well in advance of the camping trip to make sure that each member of the group will have at least one meal that is his favorite. In addition to the old specialties some new things should be tried on each outing. So what if you don't do it perfectly? As we said, even mediocre cooking tastes okay when you've got big gulps of fresh air to

wash it down. A special note to Mom: if the leader of the group has any culinary inclinations at all, let him do the cooking when the evening meal comes around. You'll be surprised how good he is. The poor man's Daniel Boone who wouldn't pick up a stirring spoon at home does not consider it feminine to rattle the pots and pans at a campsite. Besides, when they feel like doing it, most men are better outdoor cooks than the ladies are, anyway. (I know I'm going to be in trouble for saying that!)

When a really interesting day is in progress, lunch time often seems merely a necessary evil. I don't believe in spending too much time preparing lunch, so the really easy freeze-dried, dehydrated or canned stuff comes in handy here. Dried onion, vegetable or chicken soup is fine in combination with a peanut butter or cheese sandwich. Wash it down with coffee, milk iced tea or whatever you like. Dirty as few dishes as possible and save your energy for whipping up the evening extravaganza. I might as well admit right here and now that I like to eat. In fact, there are times I believe I enjoy camping as much for the pleasure of eating outside as for any other reason. Whatever the justification, here are some evening specialties of mine that are not bothersome to fix and can

BOUGHT IN A LARGE PIECE, certain kinds of seasoned cold meats keep well in camp, provide quick and easy sandwiches at lunch time.



make any outdoor cook a local celebrity.

Chili Con Carne Down Texas way, they consider chili made with beans to be unfit for human consumption. I disagree, violently. Chili is properly made with red kidney beans and ground meat and doesn't have to be so hot that each bite crosses your eyes. You need a little chili powder, to be sure, but a little is plenty. Start out with a pound of hamburger and cook it in a deep cast iron skillet with three egg-size onions until it just turns gray. Don't overcook the meat . . . it shrinks too much. Drain off the excess grease and toss in a cut-up green pepper. Now add a pint can of tomatoes. Season with half a teaspoon each of salt, sugar, chili powder and a dash of black pepper.

Simmer Under Cover

Let this simmer with a cover on it for about an hour. Just before you're ready to serve, open a pint of red kidney beans and dump them in. At this point I like to add a small can of cut-up mushrooms, or fresh ones if I can get them. Mushrooms in chili? I know this will really convulse the chili experts but why not? The beans and canned mushrooms only have to be warmed since they are already cooked. This takes about five minutes. Then you're ready to serve. In case the taste isn't hot enough, a little more chili powder or some Tabasco can be added.

The amount described will serve four; if you need to take care of more people, simply increase the recipe in the same proportions. If you have any left over (which is doubtful), by all means save it. Chili is even better the second day.



Shish Kabobs Here's a really great camp meal that your imagination can have fun with. All a kabob amounts to is a combination of vegetables and meat alternately stuck on a stick or metal rod and slowly roasted over an open fire. There are many classic combinations, but one of the best I've found consists of beef, onions, whole tomatoes, bacon and mushrooms. I'm sorry, eliminate the mushrooms if your palate can't stand them. I like to tenderize my meat for half an hour before skewering by marinating in a simple mixture of $\frac{1}{4}$ cup lemon juice and $\frac{3}{4}$ cup olive (or cooking) oil. A teaspoon of steak sauce and $\frac{1}{4}$ cup of ketchup added to the marinade give the meat an extra zing.

Ping-Pong Ball Size

Use $1\frac{1}{2}$ -inch squares of round steak and impale them with whole onions about ping-pong ball size and whole tomatoes about the same size. Wind bacon strips through everything in an "S" fashion. If you want your meat rare and juicy, push the meat and vegetables close together on the skewer. For crispy, well-done chunks, leave a space between pieces. Put four of each item (meat and vegetables) on a peeled hardwood stick about as big around as your little finger. Allow one stick for each hungry adult.

The sticks can be cooked over charcoal simply by laying them on top of the grill and turning frequently. Don't let the fire get so hot that it flames up. Keep a cup of water handy for dousing the flame. Over charcoal, they should be ready to eat in about half an hour. You can do the same thing over a good red glowing campfire. They can be straddled over the fire with forked sticks stuck into the ground and it's a lot of fun for the small assistant cooks to be in charge of the turning. Allow a bit more time for campfire roasting. The big danger in doing kabob over an open fire is the possibility of the sticks burning through and having the whole business wind up in the fire. Metal skewers especially for this pur-

pose are available and solve the problem. Sticks are more fun however, and it's a very inexperienced kabober that hasn't dropped at least one serving into the fire.

Practically any meat can be used for kabob including pork, veal, ham, lamb and various kinds of poultry. Vegetables can run the gamut too, and



ALUMINUM FOIL is one of the boons for today's campers. Using it, a combination meal can be prepared with little fuss, no clean-up problem.

you'll want to try combinations that include green pepper, eggplant or zucchini. Ham with chunks of fresh pineapple is out of this world.

Foiled Chicken If you eat on paper plates, here's a main course that will require no dish washing at all. Take a 14-inch square of heavy duty aluminum foil and into it put the following, in no particular order: one-half chicken broiler, one lemon wedge, a slice of onion, one medium-size scrubbed potato (cut into quarters), one peeled carrot (cut into bite-sized chunks), a tablespoon of butter or margarine, a dash of paprika, salt and pepper. Pinch the foil tightly together and place on a wire rack over a good bed of coals. Cook one hour, turning the package once, halfway through the hour. Again don't let the fire flame up.

Lettuce hearts with your favorite dressing complements this meal nicely



THE PRIMARY PURPOSE OF MOST SUMMER camping is fishing, swimming or other outdoor activity, but meal preparation can also be enjoyable in itself, with a little planning.

and I promise that everyone will marvel at your camp cooking skill. Same stunt can be done with fresh fish, either whole or fillets, but leave out the vegetables (potato, carrot and onion) and cook the fish only half as long. Do the spuds separately and allow a full hour of cooking time. Try a dash of curry powder and rosemary with the fish. The aroma of the spices will bring every other camper in the area over to see what you're up to.

Pancakes and Fruit This is just what the name implies. Use your own pancake recipe. It doesn't matter if it is a homemade concoction or one of the jiffy jobs that come out of a box. All you have to do to make hotcakes something special is dump in a cup of fresh fruit. Blueberries, strawberries, blackberries, raspberries, sliced peaches, cherries—all work fine in pancake batter and there may be some other things that might be just as good. Again, at the risk of being called unpatriotic, most camping breakfasts

are among the most unimaginative events I can think of. I like bacon and eggs too . . . but not every morning. Why not do something different with eggs on your next trip? How about eggs deluxe, which is nothing more than a thrown together omelet?

Eggs Deluxe For a breakfast, break eight eggs into a bowl along with $\frac{1}{2}$ cup of milk, salt and pepper. Cut up two ounces of sharp cheddar cheese into small pieces and add to the egg mixture with a dash of onion salt and some dried parsley flakes. Throw the whole mess into a *hot* skillet in which a dab of butter has been melted and cook until fluffy. Turn the whole lump over once and serve right now. The cheddar cheese turns the egg into something very special. To add even more to an already good thing, try stirring in some bacon bits from one of the freeze-dried bacon bars that several companies are offering now. The moisture has all been removed from these solid chunks of meat and they

keep without any refrigeration. Hunters and hikers note: these new freeze-dried meats (bacon, ham and beef) make great lightweight snacks to tuck in your hunting coat or pack pocket. They are almost solid protein and one four-inch long bacon bar can keep you going all day, if you carry some water with you or have other access to water. They are very tasty, but do create a thirst.

A few paragraphs back I mentioned paper plates and I'm sure some of you will gather from that that I don't like to wash dishes. You're right! But up until a short time ago I preferred cleaning up plastic or china plates instead of having half of my dinner ooze through a soggy paper job. Then I discovered that there are some coated paper plates around that will not leak. You can even cut a steak on them without slicing up a section of the table. I'm not sure what the process is, but it's not just a wax coating. In a pinch I've even used one a second time after wiping it clean with a damp cloth. Paper cups too are available with a good rugged coating . . . but I still use a china cup for coffee when I go deluxe camping. For back-packing the old tin cup is fine, even though it does burn your lips.

Good camping should mean good eating too. It doesn't matter if you

plan the entire trip menu or pick it up as you go along, but try a few new things this year. You've got to have at least one hot dog roast on your 1970 trip, but don't do it every night.



SMALL ITEMS SUCH AS these are easy to pack and carry, and they make a big difference at meal times.

Let Us Hear From You

Most columnists are selfish. We like to write about things that interest us. Maybe that's not always the best way to do it, so how about telling me what you'd like to see more or less of in the camping department? I'll do my best to cover the areas you'd like to read more about. Write to me in care of the Editor, Pennsylvania GAME NEWS, Box 1567, South Office Building, Harrisburg, Pa. 17120.

Wildlife Prints by Ned Smith

Four wildlife prints by Ned Smith, longtime GAME NEWS artist, are now available, either as a set or individually. Printed in jade-tone, each picture measures 9¼ x 14 on a 17½ x 22½ off-white background. The complete set consists of a whitetail buck, a pintail drake, a ruffed grouse and evening grosbeaks. Price is \$10 plus tax per set, postpaid, or \$3 plus tax for individual prints, postpaid, from Custom Offset, 5180 East Trindle Road, Mechanicsburg, Pa. 17055.

Duck Hawk in Danger

Once so common that it was found in the nation's largest cities, including Washington, D. C., the peregrine falcon (duck hawk) faces extinction today and is the latest addition to the Interior Department's list of endangered wildlife species.



THE SPECIALIZED EQUIPMENT USED BY today's target bowmen would amaze an Early American Indian, but it gets results they wouldn't believe.

A Rundown on . . .

Target Tackle Topics

By Keith C. Schuyler

Photos From the Author

THERE WAS A time when the term "archery" simply conjured up a mental picture of a person with a bow and arrow. To complete this picture, about all that was necessary was to attach a quiver of some sort either to his belt or back. A closeup look *might* show some type of finger cover, such as a glove or a leather tab on the draw hand, and an arm guard.

If you think there is anything left out, you had better look again. There was a time when this was all that was considered necessary to shooting the bow. An arm guard, or bracer, was not always used. For example, a book

published in 1931 states, "In fact, the use of arm guards is an excuse for poor technique, and, if you shoot correctly, with your wrist and elbow bent, you need no protection." Another book, written a year later, says, "Theoretically such protection is not needed, since the bow should be held so that the string will not strike the wrist." Even the quiver was not always considered necessary. William H. Palmer, Jr., 1928 national champion, entered the 1925 tournament with a pasteboard box stuffed in one of his wife's stockings which was in turn fastened to his waist with a large safety pin.

The picture of a target archer today, as separated from a bow hunter, might show enough tackle to start a fairly well supplied archery shop. Yet, all this extra adornment on both the archer and his bow serves a particular function in getting the arrow to the target.

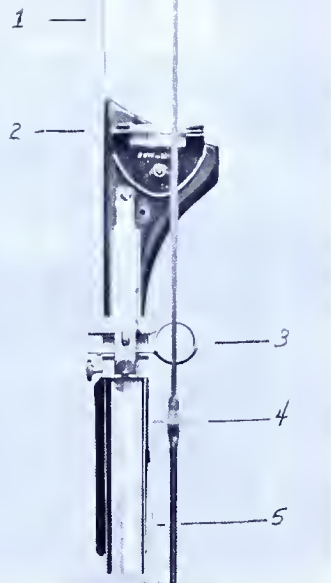
Although some may not be considered essential by all to good shooting, the archer who carries the extras does so for his own benefit. And, one thing is certain, you will find few target archers today standing on the winners' podium who do not employ several or more of these assists. Many of them are so small or inconspicuous as to escape the view of a casual observer. Some are merely for convenience; others are as important to the archer as the basic bow and arrow.

Generally speaking, both the target archer and the bow hunter use somewhat the same tackle. Basic, of course, is the bow itself. The arm guard is about the only other item of equipment which can be used interchangeably between target shooting and hunting without any special modifications for the average archer.

It is true, of course, that some target archers go hunting with the same or similar tackle that they use on the target line. But, to serve our purpose here, we are going to consider target shooting as completely separate from hunting. I asked Ray Rogers, former world target champion and present National Archery Association titleholder, if he did much hunting. He replied in the affirmative. When asked if he used his sights for hunting, his answer was a quick, "Oh, no."

So, back to the target line.

Even the bow used for target shooting is likely to be somewhat different



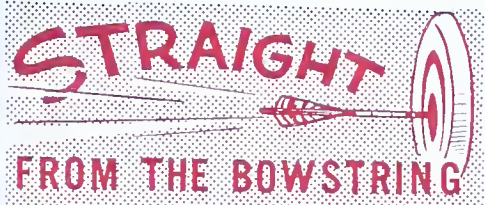
SHOOTER'S VIEW: 1 — Pre-calibrated distance chart; 2—sighting level; 3—sight; 4—kisser button; 5—clicker. This is a left-handed bow.

from that used by any specific hunter afield. However, we will simply assume that he has one of the excellent bows manufactured today and let it go at that. We are more concerned about what he uses on his bow as well as the string itself.

Bow Stabilizer

Most obvious, and certainly one of the most important accessories to a bow today, is the stabilizer. This is the metal extension with a knob on the end that you see projecting out below the arrow rest on most contemporary target bows. The built-up handle section of a bow, today known as the riser section, has become a stabilizer of sorts in itself. Comprising roughly one-third of the average target bow, as distinguished from the limbs, it accommodates a wider sight window so that the arrow can go straight out of the center of the power plant rather than to snake around as with the old off-center arrow rests.

Use of the usual wood in such bows greatly increases the weight, to provide some stabilizing effect. In addition, new materials such as plastic-impregnated wood and metal have been added to give further weight and





TARGET QUIVER can carry some accessories such as monocular, T-square, cleaning tassel, powder pouch, counter, and other useful items.

strength.

This, however, is not sufficient in itself to overcome the adverse effects of the release of all that energy against the fragile arrow shaft. Buckling of the shaft because of the pressure behind it causes an imperceptible side force which moves the bow hand away from the arrow. This, coupled with the return of the bow limbs to their normal position, tends to create movement before the arrow is fully away. In addition, there is a tendency of the bow to twist or torque in the hand at the release.

To dampen out these effects, Earl Hoyt, Jr., patented the first stabilizer in 1965. His patent covers all weighting elements, detachable or otherwise, which project beyond the back of the bow. His principle has been so successful that many target bows today have a socket installed to accept the stabilizer. The principle is even carried into hunting bows.

An accessory to the stabilizer is Hoyt's torque flight compensator.

There has been considerable modi-

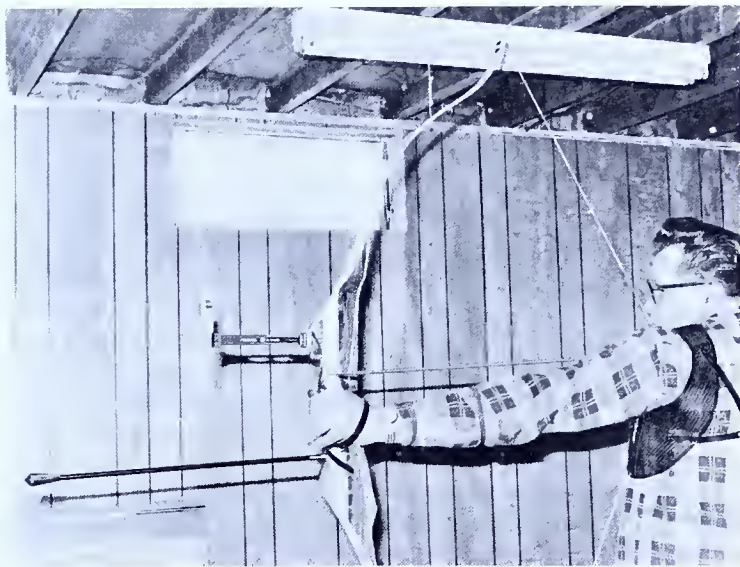
fication even in the stabilizers themselves. Some now come in sections so that the desired length can be obtained by either adding or removing parts of the rod. Another projects two prongs from a single rod to resemble a set of horns. On other bows, there is a stabilizer at each end of the riser section.

Stabilization of a bow is desirable because of the paradoxical elements which exist in shooting a bow and arrow. The term "paradox" may be unfamiliar to some. It deals with the fact that an arrow will fly straight despite forces acting upon it which would tend to make it seem otherwise. For example, in the old single piece, or self, bows it would appear that the arrow must shoot off wide of the target from its position on the clenched hand of the shooter, or whatever arrow rest might be available. In practice, of course, it snakes around the bow and takes off toward the target. This is such an involved subject that it deserves separate treatment at a later date.

Arrow Rest

The next item of specialization as we move back on the bow is the arrow rest. This at one time was merely the top of the clenched fist. It continues to be for many aborigines who still use the bow and arrow as a means of sustenance. When the center shot bow was developed, as heavier risers made possible a larger sight window, the arrow shelf satisfied the average shooter. This was doctored up with feathers, fur and other material to provide a smoother and a softer release. However, the development of aluminum shafts to their present excellence made possible the use of much more sophisticated arrow rests. Today there is a great assortment of primarily plastic rests. They can be affixed to the arrow plate with adhesive which is impregnated into the back of the arrow rest where it meets the bow.

Although the plastic rests seem to



STAN WILLIAMS' TARGET BOW is fitted with stabilizer, adjustable sight and other necessities for the archer intent on high scores.

be the most popular, there is a variety of rollers, pegs, feathers, springs, wire and bristles available. There are rests that glue on and rests that screw on. One archery catalogue lists no less than 45 different arrow rests.

One of the latest developments is a rest which is laterally adjustable. Another has a spring-loaded plunger which controls the pressure of the arrow, as it is passing the sight window, to reduce the effects of side motion. And there are disappearing rests. Some of the more ingenious rests were developed to accommodate plastic vanes which are not as resilient as feathers and are easily broken as they strike an arrow rest. A new vinyl fletching has been developed which is less brittle. But nothing else known at this time has the durability of feathers.

Because each draw must be constant, a number of ways have been devised to provide the target shooter with a means of knowing when he has reached his full draw. In the old days, a drawstring was developed. This was fastened at one end to the bow and the other to the string. Consequently, when the archer reached his desired draw, the string would stop him at the right spot. This old-time draw check

is now coming back into popularity.

More common on the target line in recent years has been the clicker. This is merely a metal spring which fits over the arrow before it is drawn. When the arrow slips past it, it snaps against the bow with an audible click, indicating that full draw has been reached. One such draw check employs the use of a light which goes on when proper draw is reached.

Sights a Must

Bow sights today are practically a must for those who compete in the so-called free style class. Sights, as a subject, could fill a rather large book. There are so many today which embody different principles that it is difficult to categorize them. This has been the most rapid development in archery in recent years and it is largely responsible for the fantastic scores being recorded. Some of those offered today project well beyond the bow to provide a sighting plane similar to that of a gun. Some are used in combination with a peep sight which is incorporated into the bowstring. Early sights were no more than a straight pin stuck into the side of the bow on a calibrated piece of cardboard. To-

day you can pay as much for a sight as a medium-priced bow. Optics have been introduced, although their use may be limited because of tournament restrictions. Sights are not only calibrated for vertical adjustment, the better ones also have lateral adjustment.

Sighting Levels

Sighting levels were recently no more than a miniature version of that found in a carpenter's level. It was simply a bubble of air floating in liquid inside a container. Today the level principle has been incorporated into some sights. The Browning No-cant Reticle has the top half of a vertical cross hair which swings like a pendulum and completes a perfect cross hair only when cant, or deflection from vertical in the bow, is eliminated.

Moving on back through all this paraphernalia, we finally come to the string itself. It has already been mentioned that a peep sight is sometimes incorporated into the string to be used in conjunction with the sight. But target shooters frequently use only one nock locator which may be glued on, clamped on or melted into place. Many still prefer the old dental tape which can be utilized for any type of shooting. For the third point of contact in the three-point anchor, a kisser button is frequently attached to the string. This thin plastic unit is attached so that it can be held between the lips to guarantee that there will be no deviation from the preferred position of the draw hand.

Even the hands themselves come in for special equipment. Since a loose hold is necessary for good shooting, a bow strap of some sort is almost necessary to prevent the bow from flying from the hand. Some of these straps fasten to the bow with a loop through which the hand is placed before holding the bow. A more recent innovation is a strap of leather which fits over the thumb and forefinger. On the draw hand, a shooting tab which is no

more than a glorified piece of leather to cover the fingers and which attaches by a single hold over the center finger, is frequently preferred.

At one time, chest protectors were worn only by the ladies. Today, these protectors are worn more and more by men simply to prevent clothing from catching on the bowstring as well as protection from careless release.

The target archer's quiver is a modern convenience which incorporates some of the old accessories which have been much improved upon, for the most part, since ancient times. An obvious carryover is the tassel which is used to wipe dirt from an arrow that has hit the ground or to remove moisture in the event of rain or damp shooting conditions. Frequently incorporated in the side of a quiver is a powder pouch. These are so designed that powder can be obtained simply by tapping the perforated pouch. The powder, of course, provides for a smoother release in the event that perspiration or other moisture gets on the finger tabs or gloves.

Bow Square

A frequent extra carried by top target shooters is a bow square. This is a specially designed T-square which slips into the string and measures its height from the center of the bow grip. Although the manufacturer usually recommends a proper string height, fine tuning of a bow may indicate a lesser or greater height is preferable. This can vary with the number of strands used in the string itself. Consequently, once the proper height is determined, the only way to insure that it is correct before shooting is to measure it. If the string height is too great, there is nothing that can be done about it and the string should be discarded. On the other hand, if the string height, or fistmele, has become lowered, a few twists of the string may bring it back up to the proper height.

Some quivers have an extra strap available on which can be fastened

any one of these archery extras. Some provide for the attachment of a clipboard to hold a scorecard—which is handy in field tournament shooting. A pocket is frequently provided for such useful items as beeswax to touch up a fraying string, an extra string in the event of a break, or a chocolate bar in case the tournament is a long one.

There is even room many times for a counter, which is sometimes frowned upon by other archers who suspect the user may be sandbagging.

By the time this gets into print, there may be more new gadgets which some target archers will consider necessary to improve their skill. If you are one of those in the pull-back-and-pray category, don't get the impression that any of these archery extras

are for show. Scores of those who employ them are sufficient proof of the need, whether psychological or practical, of all of the items which the individual target shooter considers necessary.

Although target shooters are in the minority among the vast number of archers in Pennsylvania, the preceding is a clue as to why they have developed the art of shooting the bow to such a fine degree. What cannot be portrayed, and in many instances not even guessed at, are the mental accessories necessary to stay up near the top in target shooting. Today it takes a fair price to be a fully equipped target archer. But only those who have tried it can appreciate the price in frustration that goes with being tops on the target line.

New Material From the National Rifle Association

Denali 1970 is the title of a new booklet from the NRA which will be of interest to many big game hunters. This is a comprehensive list of guides, outfitters and hunting camps throughout North America. Listing is based on a code of ethics established through consultation between the NRA and prominent guides and sportsmen. Besides a state-by-state listing of guides in the U. S., Mexico and Canadian provinces, there are articles on the responsibilities of guides, outfitters and clients; information on choosing proper firearms for the game being hunted; how to plan a hunt; shooting programs, etc. The booklet will be updated annually. Price, \$1.

Also new is the *Conservation Action Handbook* (42 pp., 8½ x 11, paperbound, \$2.50 to NRA members, \$3.50 to nonmembers), a highly useful publication for showing individuals how to start helping solve environmental problems. If you've ever asked yourself or your friends "What can I do?" here are some good answers.

For youngsters, a new series of Hunting and Conservation Project Manuals, each dealing with one species such as the white-tailed deer, cottontail rabbit, ring-necked pheasant, etc., is available at \$1.50 for the set. These tell how to set up, plan for and hunt these species; how to correct certain erosion problems, create a wildlife habitat demonstration area, etc. Worthwhile projects, all.

Orders should be placed directly with the National Rifle Association, 1600 Rhode Island Avenue, N.W., Washington, D. C. 20036.

All Appetite

Shrews burn energy so fast that they starve quickly without a steady food supply. Their food consumption can be compared to a 175-lb. man eating 175 pounds of meat daily.

The Spring Gobbler Season Is No Problem to the Gunner—It's a Shotgun-Only Time. But the Hunter Looking Forward to November Can Have a . . .

Turkey Gun Dilemma



WARREN COUNTY TURKEY HUNTERS Bob Ent, Burt Shucker, Tom Henry and Rod Henry. They like tight-choked guns with large shot loads.

By Don Lewis

Photos by Helen Lewis

“YOU FELLAS will never convince me that a rifle is the right gun for turkey hunting,” the aged storekeeper said. “I’ve had nearly 40 years’ experience, and I’ll stick to my old shotgun every time.”

“Hold on, Billy, don’t go judgin’ the whole world by what you like. You like the shotgun because you can’t hit anything with the rifle. Anyway, I was chasin’ turkeys down home in Virginy when you were being weaned. I wouldn’t have got ketched dead in the woods with a shotgun in turkey season,” a tottery old-timer retaliated.

“Well, that was 70 years ago when all you did was feud across the gulches. Most of your time was spent

trying to bounce a musket ball off the noggin of some dried up old geezer like yourself who was borrowin’ corn syrup,” Billy fired right back. “When I hunt turkeys, I hunt turkeys, so I reckon I wouldn’t have been safe in them hills with my shotgun.”

“You’d a been safe, awright. I never did hear of either side shootin’ a buzzard,” the old man snorted as he started for the door. “I’d suggest you get some corn and dynamite if you run out of scattergun shells.”

“You get what you want and leave,” the old store owner said sarcastically. “They didn’t know nothing about shotguns where you came from.”

“Oh, yes, we did. We always left the

wimmin folk use shotguns to guard the house against porkypines and polecats. Us hunters stuck with the rifle and a whole barrel full of turkey tricks."

"You had barrels all right, but they weren't full of turkey tricks. Come to think of it, you ain't shot a turkey in the last five years. Explain that."

"Cause I ain't hunted since I was 87, that's why. I'm not sticking around here trying to discuss the refinements of turkey hunting with a young squirt who ain't had but a mere 40 years' experience," he tossed back as he left.

I had stopped for some refreshments and to ask where I could locate some squirrel country. It was my good fortune to hear these two old friends getting a kick out of life putting on an act for the rest of us.

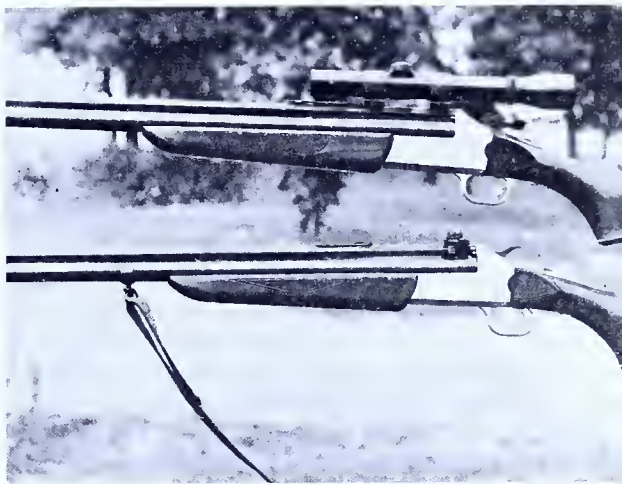
"You two fellows don't seem to like each other," I asked. "Is it true he's over 90 years old?"

"Aw, shucks, old Clint and me have been chewin' at each other for more'n 30 years. The first day he moved in here from the mountains down south, we left his wife and kids unpack the furniture wagon while we lined up some good squirrel country. Been hunting and arguing ever since. He's over 90 for sure, and time was he could drop a squirrel at 60 yards off-hand, but his eyes left him for that kind of shooting."

"Are you really that turned against the rifle?" I asked. "A lot of fellows I know seemed to think pretty highly of it for turkey hunting."

"Every man to his own choosing, but the rifle has no place in turkey hunting as far as I'm concerned. When I match wits with a turkey tom, I want a shotgun."

"Well, you must have a more spe-



A PAIR OF SAVAGE O/U rifle-shotgun combinations. Low power scope works fine with rifle barrel, but Lewis prefers aperture sight for all-around use with this gun.

cific reason," I pressed. "What's so different in getting a turkey at 35 yards with the shotgun or stopping one cold at 150 with a rifle?"

"I can see you don't know anymore about turkey hunting than my old buddy, Clint."

"You got me all wrong," I cut in. "I'm only asking you to state exactly why you think a rifle is not suitable for turkey taking."

Edging over close to me, he pointed a wrinkled finger under my nose and then let go with both barrels. He made some good points, but as far as I could see, he stuck with the idea that turkey hunting reflects the ability of the hunter to bring the bird in shotgun range. Shooting a turkey that hadn't answered a call was simply beyond his thinking. My eyes may have been deceiving me, but I thought I detected a bit of moisture in his eyes as he gazed proudly out over the hills where he and Clint had spent a lifetime.

And so it goes. The everlasting argument of which gun is better for turkeys, chucks or deer. Trying to find the answer is like looking for the needle in the haystack. After hearing the pros and cons for a number of years on all these subjects, I've



Letters . . .

Shooters for some reason—perhaps because they're involved in an interesting subject—tend to be letter writers. Many of them write to gun columnists, either requesting information, giving it, or just because they want to talk about their pet guns. I enjoy such correspondence and answer as much of it as possible. But sometimes there just isn't enough time to reply to all mail. If you didn't get an answer to a letter, this is the reason.—D.L.

reached a definite conclusion that the answer is just as far away as ever. I'm glad in a sense that there is no one answer. Strange as this may sound, I'm happy to have the situation just as it is. Let the arguments continue. Let the evenings in the hunting camps ring out with hot debate. The arguments, wagers, and heated debates all add up to a healthy situation—the fascinating world of the hunter.

It would be unwise for me to state that there is just one gun for turkeys. A careful survey of a good many turkey hunters proved to me that the firearm used reflected pretty much the philosophy that the hunter had toward turkey hunting. This has led me to believe that the firearm could be considered secondary. Now I'm not trying to take a middle of the road attitude trying to please everyone with a statement such as that. In fact, I'm not taking a middle of the road attitude when I say that either the rifle or shotgun can be successfully used for turkey hunting; it's simply the truth. The way turkeys are hunted in Pennsylvania, there's no reason why the hunter shouldn't use the type of gun he feels will bring him success. Naturally, I'm not speaking of the spring gobbler season in Pennsylvania. During this season, only a shotgun may be used.

The shotgun has reigned supreme for many years. The reason is very simple. As the old storekeeper stated,

the mark of a turkey hunter is his ability to bring his bird to him. Calling the bird in close, say within 45 yards, is more important to this type of hunter than the actual shooting. They want to be known as turkey hunters, not turkey shooters. Many of these hunters look with disdain on the fellows who wander the ridges looking for a distant, unsuspecting bird and then cutting loose with some type of scoped rifle, but being a long-time varmint hunter, I find some challenge in the thought of making a precise shot on a turkey "clean across the valley."

I will have to side with the shotgun boys when they bring up the case of saving meat. That was one of the old storekeeper's main points. He shot his turkey to eat, and he didn't want most of it blown away by a high-velocity rifle bullet. I know for sure that a load of 2s or 4s won't destroy as much meat at normal range as the zipping 222 or 308 slug. A friend of mine used his 8mm with a regular hunting load to drop his turkey. The bird wilted when the rifle cracked, but my friend claims the bird lost four pounds when the bullet struck.

Butt of Wing

Damage is held to a minimum if the hunter can place his bullet in the area where the wing joins the body. This isn't always possible, but the hunter should keep that in mind. Using a full-jacketed bullet or a reduced handload are several other means the rifleman can try to help save the meat. But neither really works well. A turkey's flesh seems "soft," and it splatters quite a bit even when hit with a non-expanding bullet unless velocity is very low. If you want to save meat, stick with the scattergun.

I've talked with some pretty fair shotguns who claim the rifle just won't kill as effectively as the shotgun. They always cite case after case where a bird hit low or high with a rifle bullet simply took off. On the other side of the ledger, I've had the rifle-toters

roll their eyes piously when they stated the number of birds they de-feathered before they wised up to the rifle. There's bound to be some truth on both sides, but I think each is stretching the truth slightly in trying to bolster his argument. A well-placed shot from a rifle will certainly stop a turkey just the same as a load of 4s will.

Range Problem

One of the commandments of hunting is for the hunter to be sure his game is within effective range of the gun he is using. Blasting a load of shot at a turkey 65 yards away will wound far more birds than it will kill, and the hunter is guilty of poor sportsmanship. Likewise, the rifle hunter who just takes a potshot at a turkey without trying to place the bullet in a fatal area is just as guilty. It all boils down to the fact that you had better learn a few things about the gun you finally choose. Just because it happens to be a Magnum shotgun won't guarantee a flying turkey at any distance. To get the most out of the shotgun, it should be patterned at different ranges, and it's very likely that even with the 12-gauge Magnum, shots beyond 50 yards will be in the fringe area.

The rifleman doesn't have unlimited distance either. The scope and the varmint rifle may give the impression that distance is not a factor, but bullet placement is. Some of the country that I've hunted turkeys in didn't offer too many long shots for the rifle hunter. A 150-yard shot would have been extreme in most cases, and trying to pinpoint a bullet through 150 yards of trees and brush just isn't the simplest thing to do. Getting some summertime chuck hunting or preseason practice will improve your chances of knowing what to do when you see the bird.

Like most everything else in hunting, a lot of heated discussion goes on about shot size for turkeys. Although small shot gives a denser pattern, the

toughness of a turkey rules out the smaller sizes. In other words, the hunter should be prepared to take his turkey at maximum range. A close head shot cannot be anticipated every time, and small shot just can't penetrate to the vitals of a turkey that is flying away from the hunter. The choice seems to lie between 2s and 4s. Since I lean toward a dense pattern, I will have to go with 4s.

Any shotgun will do, but the full choke 12-gauge is hard to beat. Loaded with a 2¾" Magnum shell using 1½ oz. of number 4 shot, it's pretty much in a class by itself. This might be the ideal choice, but the 16- or 20-gauge guns can't be overlooked. I would suggest a Magnum shell in either case, which means 1¼ oz. of shot.

The rifle hunter has a wide variety to choose from. However, I would

HELEN LEWIS, an avid rifle shooter, likes the pinpoint accuracy of her M521T Remington with 6X Unertl scope, but says 22 l.r. requires exact placement for turkey shooting.



think twice before considering the common 22 long rifle hollow-point unless the hunter is an exceptionally fine shot. At close range, there would be no problem, but at 70 to 100 yards, this little bullet doesn't have the power. I'll even put the 22 Winchester Rimfire Magnum in this category when the shots get beyond 125 yards. This 22 Magnum does have considerable more speed than the regular 22, but I can't classify it as a long-range turkey rifle. This particular cartridge is ideal for woods use when combined with the 20-gauge Magnum in the over/under Savage.

The centerfires will easily kill, but their bullets also destroy much meat. As mentioned earlier, using a full jacketed bullet will help some, since it doesn't expand upon impact. Reducing the powder charge is another method employed by a good many turkey hunters. A degree of caution has to be exercised when doing this. Don't reduce the powder charge below the suggested loads in the manual. Some fellows go to the heaviest bullet for their caliber. This cuts down the speed, and using a heavy bullet reduces the amount of expansion on impact. Still, the heavy slug, even slowed down, hits hard. I can only suggest trying to come up with a load

that will give the best results in your rifle.

What about the rifle-shotgun combination? Is it the perfect turkey outfit? As I look at turkey hunting, I see this outfit as the best for the average hunter. The turkey specialist will always discriminate. He will use the exact type of gun and load that suits his style of hunting. But the man who hasn't learned all the tricks will do better if he carries two guns in one. Carrying the combination outfit with the selector button on "shotgun" will permit the hunter to take any flushed shots. On the other hand, if he sees his bird on the next hill or beyond shotgun range, a flick of the button will allow him to use the rifle.

The one problem I've found with the combination job is whether or not to scope. When the scope is installed, the shotgun end of it is made less effective. I used several with 1½X scopes without any success on moving game. I did all right on my range at rolling targets and flying cans, but when I got caught flat-footed by a roaring grouse or scooting rabbit, I just couldn't find game in the scope. I think the best bet would be to install the receiver type sight. My tests proved it to be extremely effective even up to 100 yards.

But How Tall Is It?

The whooping crane is the tallest of North America's birds. Young attain full size while still wearing their juvenile feathers.

Looking Backward . . .

"Tradition tells us that there was a village of nine huts, or lodges, of Indians near the head waters of the south-east branch of Deep run, who remained there long after the township was settled by whites. They went to the Neshaminy to catch fish, then abundant in that stream, and paid frequent visits to the houses of the settlers on baking days, when the gift of pies and cakes conciliated their goodwill."

W. H. Davis, "History of Bucks County," p. 407, Democrat Book and Job Office Print, Doylestown, 1876.

Pennsylvania Game Commission Directory

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WESTERN GAME FARM—Jack N. Anderson, Superintendent, R. D. 1, Cambridge Springs 16403. Phone: A.C. 814 398-2212

LOYALSOCK GAME FARM—Charles Pfeiffer, Superintendent, R. D. 2, Montoursville 17754. Phone: A.C. 717 435-2500

STATE WILD TURKEY FARM—Eugene P. Nelson, Superintendent, Proctor Star Route, Williamsport 17701. Phone: A.C. 717 478-2252

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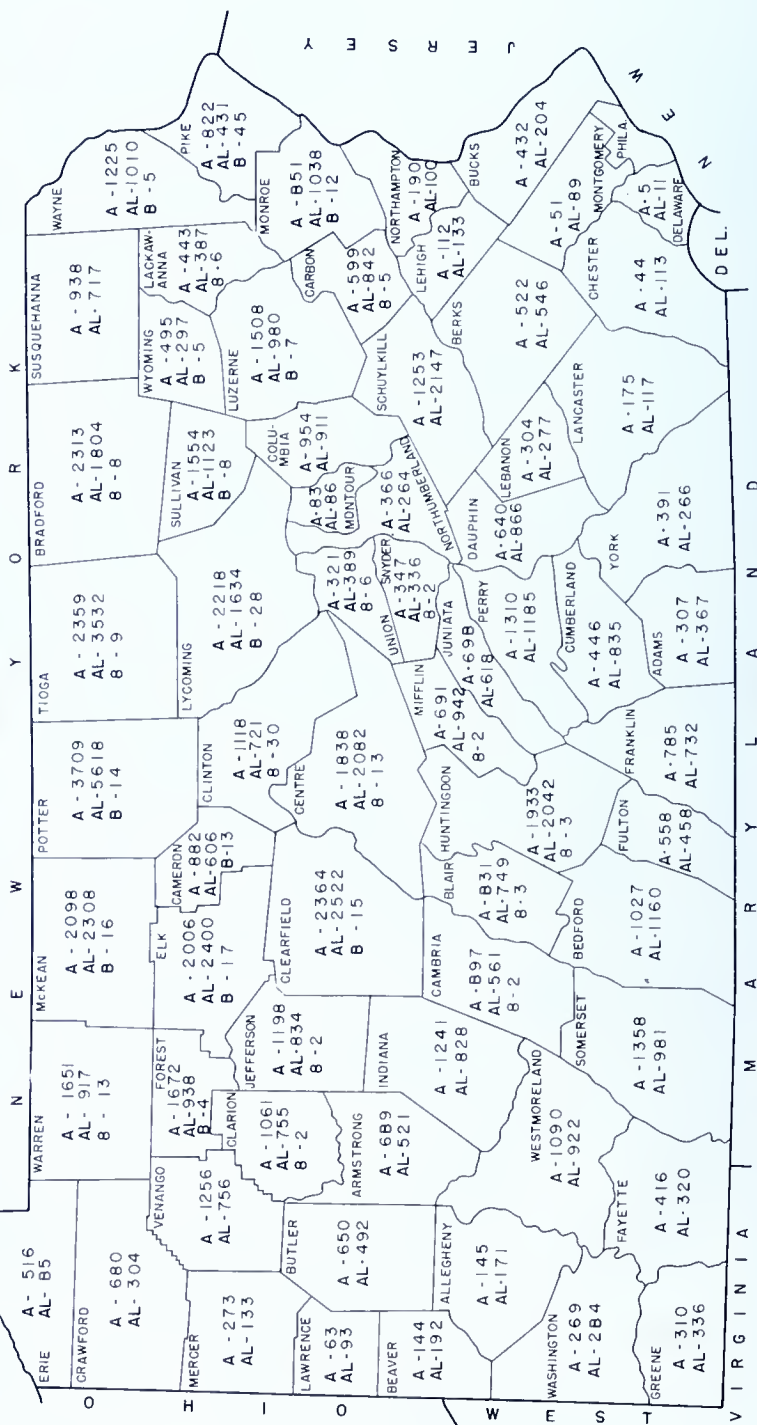
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1969

DEER & BEAR HARVEST

PENNSYLVANIA GAME COMMISSION
HARRISBURG



ANTLERED DEER
(SYMBOL-A)

ANTLERLESS DEER
(SYMBOL-AL)

REGULAR SEASON 58,588
COUNTY UNKNOWN 224
ARCHERY SEASON 1,111

Grand total BEAR kill..... 295
(SYMBOL-B)

Grand total DEER kill..... 116,684

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IN THIS ISSUE

FEATURES

	Page
Don't Hurry—Others Will	2
By Albert G. Shimmel	
Alone on the Susquehannock	7
By Dave Drakula	
Huntin' With Hubby	14
By Mrs. Mary H. Bair	
The Extinction of a Species	19
By M. Edith Rutzmoser and Donald S. Heintzelman	
Peat Mosses	25
By Ken Calnon	
Following Ancient Trails	26
By Eugene R. Slatick	
Don't Pick Up a Hitchhiker	47
By Arthur R. Jeffery	

NEWS

Field Notes	34
Conservation News	39
Hunter Safety Education	44
By John C. Behel	

COLUMNS

Be a Good Shopper (Camping)	49
By Les Rountree	
The Nationals (Archery)	54
By Keith C. Schuyler	
Just a Rifle Between Friends (Guns)	60
By Don Lewis	

COVER PAINTING BY KENT PENDLETON

There's something sad about humans' relations to skunks. Our ordinary feeling is usually one of distaste. And yet a skunk asks little more than to be left alone, preferring not to employ the chemical warfare armament which is the cause of our disenchantment, as he waddles along, almost totally indifferent to his surroundings, searching out the dietary tidbits he prefers. He eats almost anything, but in the summer prefers insects, fruits and berries. For a fuller account of his regular activities, see Al Shimmel's article beginning on page 2 of this issue.

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Charley's Sermon . . .

THE 1970s WILL BE the decade of conservation. City people are finding out that the wise use of natural resources is imperative for survival.

General magazines, the television networks and civic organizations have suddenly discovered conservation. Most of all, politicians are scrambling to get on the conservation bandwagon, and there is no doubt that 1970 will be the year of conservation acceptance by the public, in theory if not in action.

Hunters and fishermen should welcome the newcomers to the fold. The news media, public and politicians are picking up a crusade outdoorsmen started 70 years ago.

Hunters and fishermen were the first to decry the destruction of America's forests, soils, streams, prairies and wetlands. They were the first because their love of the outdoors had made them aware of the beauty of nature and the necessity for protecting wildlife habitat and scenic grandeurs. Outdoorsmen were the first to plead for conservation because they were the ones who were hiking the mountains and fishing the streams. They saw what was happening, but the city folk did not. For over 50 years, the outdoorsman was the only one who really cared.

Hunters and fishermen were the ones behind major conservation legislation in state capitols and Washington. When they could not get space in the news media, they started their own publications to warn Americans of what was happening to the environment.

Hunters and fishermen started state fish and game agencies. They asked that they themselves be required to buy licenses and that the money support the state agencies. Even today, with two minor exceptions, hunters and fishermen are the sole support of state fish and wildlife agencies; no money comes from the public despite the fact that the sportsmen funds provide protection and habitat for hundreds of species of non-game wildlife.

Hunters and fishermen, unique in all America, asked that their fishing reels, guns and ammunition be taxed so that funds could be increased for habitat development and the purchase of lands to be held in perpetuity for all Americans.

Hunters and fishermen imposed seasons and bag limits on themselves in order to give all a fair chance to crop game and fish without hurting the basic breeding stock of each species. The outdoorsmen formed national organizations to push for the wise use of our natural resources, such as the National Wildlife Federation, the Izaak Walton League of America, Ducks Unlimited and many others.

Now, after 70 years, who is going to be passed over and not given credit in this "Year of Conservation" by most of the mass media and politicians? You guessed it—the hunter and fisherman!

In fact, with the sudden rash of amateur preservationists, there is a good chance that the hunter will be the first attacked. These sudden discoverers will think that game can be stockpiled; they don't understand that hunters crop only the annual surplus and that no game species in America is in danger of being overharvested by sportsmen.

It's up to every outdoorsman and the outdoor writers to see that hunters
(Continued on Page 43)



CHUCK
RIPP

Don't Hurry—Others Will

By Albert G. Shimmel

IT HAD BEEN an unforgettable afternoon. The remote pond, discovered by happy accident, was a spot of rare beauty. The pickerel were portly, good scrappers and unsophisticated. Their coloring was a symphony of black, green and minted gold. The time passed so quickly that, before we realized what was happening, dusk was upon us. The knowledge that a long mountain mile, over unfamiliar trail, lay between us and our car made haste imperative.

When the pine had been logged from the area, grass grew between the stumps with only an occasional clump of aspen to break the monotony. My friend was walking ahead along a faintly marked trail. Without warning he stopped so suddenly that I collided with his broad back. Stepping aside I saw that the trail was blocked by a skunk.

Faced by obviously superior armament we stood frozen. After several minutes, the animal turned and with commendable dignity resumed its journey. We followed at a discreet distance. Occasionally, when we approached beyond what our guide considered a respectful distance, he called a halt, often doing a handstand as he whipped his artillery into position. We stopped each time until, assured that we were observing proper decorum, the animal lowered its battle flag and moved ahead.

For a quarter mile (it seemed more) we followed, fearing if we turned aside we might not be able to find the trail again. When it was almost dark our leader turned aside. The last we saw was his white-tipped tail disappearing down a burrow under a stump.

We gave audible signs of relief and eventually reached our vehicle. As we

belatedly stowed our gear I heard the call of a barred owl coming faintly from the pond. It seemed somehow to express a mocking humor. Perhaps it was imagination. . . .

A friend who occupies a cabin for three months of each year confirms the fact that most animals respect the skunk. A two-foot stump some distance from his cabin is a focal point. Each evening, the accumulated table scraps are placed on its flat top for the convenience of wild visitors. The animals become accustomed to the food and the subdued light that is turned on each evening. A diary is kept and any unusual behavior is noted.

Regular Visitors

Raccoons, foxes, flying squirrels, opossums, rabbits and deer are common visitors. One year an adolescent bear began to visit regularly. The children were delighted. Each night his coming was a signal for other visitors to fade into the night. They seemed to sense that this creature would consume everything that was edible, and they were right.

One night, the bear, newly arrived, cocked his head toward the hill, grabbed a piece of bread and retreated toward the swamp. His back-laid ears were signs of his displeasure. Out of the twilight, with an assurance born of self-confidence, came a white-striped skunk followed by six replicas of herself. For an hour they fed and made an orderly investigation of the property. Then as if an order had been issued, they formed a single column and marched back into the darkness. . . .

Psychologists inform us that belligerence is one of the symptoms of insecurity. If this fact is true, Duke was



THE HORNED OWL, coming in from behind a family group, stooped and lifted a partly grown skunk that had lingered to dig beside a stone.

a totality of that trait. He was the offspring of a Boston and a bull terrier. Having spent his youth as an urbanite he was totally unprepared for certain situations common to country living.

When introduced to rural life he immediately assumed absolute authority over the premises. When he dispatched an adolescent woodchuck with little difficulty his pompous parade of power became intolerable.

A skunk had taken up residence in a den under a neighbor's workshop. It came each evening to accept an offering of table scraps placed near the porch steps and then made a tour of inspection before retiring. Its manners were impeccable except for a fondness for the California poppies that grew in the flower bed. It visited this bed each evening and ate the plants with the delight of a gourmet. The neighbors named the animal Petunia, not because of its sex, which was uncertain, but because of its appetite.

Another bed of poppies grew near the back porch of the house that Duke claimed for his own. A confrontation was a foregone conclusion.

In the flower-scented gloom of a June twilight, Petunia came through

the hedge and sauntered in the direction of the poppy bed. Duke was making his final inspection of the grounds before retiring. When he sighted the trespasser he whooped with joy and bounded away to teach the intruder a lesson. Petunia gave no recognition of this attention save for a slight elevation of the tail. The dog skidded to a puzzled halt. A creature that did not retreat was unthinkable. For a moment he was undecided. He must teach this culprit a lesson.

There were seconds of confused action. Duke was enveloped by the overwhelming odor. He rolled and somersaulted in vain effort to be quit of the torment. We glimpsed Petunia disappearing through the hedge with unruffled dignity.

I am afraid the dog received scant sympathy. A bath of diluted vinegar and tomato juice was repeated several times before he was acceptable in polite society. We did not realize how deep were his scars until he sighted Petunia enjoying a feast of poppies beside the porch. We heard him whimpering at the other side of the house. When the door was opened he retreated to a secluded corner and refused to come out. . . .

Skunk's Private Life

The private life of a skunk is a model of quiet decorum. In late winter the male awakens from semi-hibernation and goes romance seeking. He has an accurate knowledge of the location of occupied dens within a large area. His wanderings will sometimes extend to five miles in a single night. He visits each one until he finds a welcome. He will then remain for some time before moving on to seek other conquests. Old mature females become receptive in late winter while those of the previous year are in season a month later. This extends the breeding season over a full two months.

Occasionally the wanderer will find that another male has preceded him.

In most cases he will politely move on. When there is competitive combat it is generally odorless and in most cases bloodless. It consists chiefly of intimidation tactics, foot stomping, low growls, chirrings, high-pitched squeals and low explosive grunts that could almost be called barks. Above ground they circle each other briefly in a sort of a shuffling dance. Their half-elevated tails give notice of their anger. This performance generally ceases after a few minutes, and then the animals separate, each going quietly about his business with no further display.

Develop Rapidly

Nine weeks after mating the young are born. At birth they are naked, blind and helpless. They develop rapidly and at five weeks are strong enough to go abroad. By the end of the second month they are weaned and have become replicas of adults in everything but size.

"Don't hurry, others will!" is the motto under which the skunk has chosen to live, although when the occasion demands this small animal moves with surprising agility.

Its defensive armament consists of a pair of glands surrounded by a set of constricting muscles. Twin jets open on either side of the anal opening. They can be fired separately or in unison. It carries several reserve charges so that enemies can be subjected to continued attack.

The skunk's ammunition is a yellowish liquid that is slightly luminous in the dark. To most people it is violently nauseous and distressing. Animals that receive a full charge give violent evidence of discomfort. Dogs will whimper, blunder into obstacles and plunge their muzzles repeatedly into grass or rub against the earth. Some are more sensitive than others. I once owned a coonhound of mixed ancestry that could continue hunting almost immediately after an encounter, but a friend with whom I hunted had a hound that would be completely

incapable of further trailing for several hours.

A family of skunks lived in a den at the edge of a grassy meadow. I observed many times as they foraged. The mother came into the meadow at early dusk followed by a procession of young. When they reached the hunting ground they fanned out slightly with the young flanking the mother on either side. They moved slowly, stopping frequently to gather crickets and grasshoppers or dig for grubs. Occasionally they found a mouse and effected its capture with remarkable quickness. Eggs of ground-nesting birds, unfledged nestlings and young rabbits were a part of their menu. Bumblebee nests were dug up and the grubs as well as what adults they could catch were special delicacies, although they must have been rather hot tidbits. Mulberries were eaten and apples, especially the sweet ones, were relished.

The bold pattern of white stripes on black may serve as warning colors to hunters that might otherwise blunder into mistaking a skunk for more desirable prey. Only the great horned owl hunts it with a purpose. Seldom do we find one of these birds that does not carry the taint of the potent musk on its feathers.

COMBAT BETWEEN MALES is usually foot stomping, low growls and high-pitched squeals, or a shuffling dance.



By chance, the only observation of an encounter between a horned owl and a skunk was an entirely odorless affair. The owl, coming in from behind a family group as they foraged, stooped and lifted a partly grown animal that had lingered to dig beside a small stone. Evidently its back was broken, paralyzing the defensive mechanism. The others of the group fed on, apparently unaware of the tragedy.

Major Hazard

The major hazard in addition to disease and parasites is the toll taken by our fast-moving vehicles. The skunk, going his unhurried way, has not learned to cope with the automobile. On one four-mile length of highway that connects two semi-rural communities, 62 skunks were counted as traffic fatalities during a four-month period.

When I was a boy my father had an apiary of twenty or more colonies of bees. These were scattered about the hill orchard above the house and served a dual purpose of gathering honey (a cash crop) and pollinating the fruit trees. The hives were kept elevated some eighteen inches above the ground to protect them from a family of skunks that lived in a den near the raspberry patch. They were punctual with their evening visits and relished the dead bees that had been carried from the hive and dropped to the ground below. After completing the sanitary service they hunted mice and dug grubs before wandering farther afield. There were times when a new swarm was not elevated immediately. The little animals would investigate the hive, paw at the entrance and devour the guard bees as they ap-

peared. They did not seem to mind the stings (surely they were stung!). Perhaps they enjoyed them as some humans enjoy hot peppers. I guess there's no way of knowing.

This proclivity toward a bee diet led a neighbor who supplemented his farm income by trapping to compound a highly successful lure. It not only was excellent for skunks but was successful on raccoons, foxes and weasels. He took a pint of dead bees and allowed them to ripen. He then added some strained honey and a touch of musk from a muskrat. He kept his secret carefully and was only pressured into disclosure by a threat of cutting off the supply of his main ingredient.

To many individuals, the skunk's bad odor is the sum and total of their acquaintance with the animal. To the ecologist he is somewhat of a mystery, holding a definite place in the balance of nature. To the householder he is a nuisance. To the furrier he is a source of cheap and durable fur. To the naturalist he is an interesting citizen of the outdoors. To a selected few (I have yet to see a shapely blonde leading a jewel-collared skunk down the street in an Easter Parade!) he is a pet. But to catch a glimpse of a mother leading her file of young along a trail at dusk or to catch the odor of its perfume in the dampness of a spring evening is a bit of Americana that brings a nostalgic tug to the heart of many an urbanite that had his origins in the country.

Still, in this world of frustrations and hypertension bred of hustle and pressures of modern life, we would do far worse than take the advice of the lowly woods kitten—"Don't hurry, others will!"

How's It Get Airborne?

Heaviest flying bird of North America is the trumpeter swan, with maximum weights of 40 pounds.

SOUTHERN GATEWAY

SUSQUEHANNOCK

TRAIL SYSTEM



Alone on the Susquehannock

By Dave Drakula

MENTION Potter County anywhere in Pennsylvania, and you're likely to end up in a long conversation on hunting, fishing, and the beauties of "God's Country." I've had this experience many times and each one makes me happy that I live near such a highly regarded area.

In most cases, time is a limiting factor when it comes to visiting and exploring an area. Many hundreds of people enjoy driving over the back roads of Potter County. It's a good way to get to know the area and it can provide some cherished memories. I like back road riding but, if given a preference, I'd rather walk. In short, I'm a hiker and Potter County satisfies my desires.

Fortunately for people who enjoy hiking, the idea of a trail system looping through Potter County appealed to an energetic group of its residents.

With William D. Fish, Jr., as the leader, the Susquehannock Trail Club was formed. Plans for the trail were laid and actual work on the footpath was begun in January, 1967.

Contrary to what one might believe, no part of the Susquehannock Trail System follows a known Indian trail. According to Thomas J. Fitzgerald, vice-president of the STC, "Indians never had any major settlements in Potter County, and most of the few temporary encampments were in the northern part. Indians rarely set foot in southern Potter County because the rugged topography made travel too difficult."

The history of most portions of the trail system dates back only to CCC (Civilian Conservation Corps) days. Most of the footpath follows Department of Forests and Waters fire trails.

The trail is marked with orange

paint blazes. In several sections these orange blazes give way to white markings. On occasions where the trail crosses a road, an orange STS (Susquehannock Trail System) and directional arrows are stenciled on trees.

The *Potter Enterprise* in Coudersport has a complete set of trail maps for sale at \$1 per set. These maps are invaluable aids for anyone planning to hike a large section of the trail.

Never Hiked in One Trip

For some time I had been interested in hiking sections of the trail. I knew it began at Denton Hill, circled to the Clinton County line and then back to Denton Hill. Total length, 85 miles.

Then I learned an interesting fact—the Susquehannock Trail had never been hiked by anyone or any group on one continuous outing.

Here was a clear challenge and a chance to see one of the great mountain regions of the state. I began making preparations.

Preparations included choosing a suitable backpack. I picked one of the new aluminum framed-nylon material packs. It proved light, easy to carry and had more than enough room. I especially liked the number of pockets that seemed capable of holding an unlimited amount of odds and ends.

Fully loaded, the pack weighed in just shy of 30 pounds. It contained all of my food, extra clothing, first aid supplies, rain gear, maps, and a few other items.

Since I would be making the trip in August, normally the driest month of the year, I decided to forgo a tent and carry only a plastic ground cover that could double as an emergency shelter should the need arise. On top of the plastic I could spread my dacron sleeping bag. I considered taking an air mattress but gave up in the interest of "roughing it" a little.

Using Les Rountree's admonition, "Anyone who can boil water, can cook with dehydrated foods," I decided to use these arid delicacies.

Most of the foods can be purchased in neighborhood supermarkets although specialty stores and camper supply outfits offer a wider variety.

The supermarket tape totaled \$4.67 for my trip's supply of food. Included in the menu were beef stroganoff, chicken baronet, instant cereals, soups, and mashed potatoes, plus dried beef and several small packages of raisins. Some of the more staple foods like sugar, coffee, tea bags, salt, pepper, and non-dairy creamer I pilfered from the kitchen cupboard. Even if I had purchased these, the total cost wouldn't have exceeded \$8.00.

For the hiker or camper who has never prepared dehydrated foods, I would suggest fixing a few meals at home before venturing out on the trail. This will provide experience in following the directions plus giving some idea of how much food should be taken. A little shakedown feed can mean the difference between food that is merely edible and food that is truly enjoyable.

On August 26 at 8:30 a.m., I began my hike at Denton Hill. It was cool and pleasant walking through the tall hardwoods. The trail was well worn and soft underfoot, walking was easy and noiseless. After several minor adjustments, my pack carried quite comfortably.

Much Wildlife Seen

The coolness remained throughout the morning. At noon I reached the Patterson State Forest area on Pennsylvania Route 44. In three hours I had seen 17 deer and 6 turkeys. At Patterson I talked with a couple from Pittsburgh and a group of Explorer Scouts from Cleveland, Ohio. The Pittsburgh couple had been camped in the area for a week. In that time they had seen several flocks of turkeys, numerous deer, and sign of a bear. They were utterly amazed at how quiet and peaceful things got after the sun went down.

Since the day was still cool and I



A WIDE MOUNTAIN VALLEY near the Prouty picnic area was traversed by Drakula on his solitary hike.

hadn't tired much, I decided to get back to the trail.

The trail from Patterson Park led down into a beautiful mountain valley marked only by an isolated hunting camp. Near the mouth of this valley I came to the Prouty picnic area.

At Prouty Park I replenished my water supply and took a twenty-minute break. The park was deserted except for an old groundhog that crawled out from under a picnic table and munched at some leftovers. I removed my boots and invited the breeze to cool my feet. For the first time since leaving some five hours earlier, I shed my pack. Long ago I had learned that a lone backpacker rests standing up with his pack on. Sitting down and getting up with a loaded pack requires a lot of energy. The same can be said for repeatedly taking a pack off and putting it on.

From Prouty Park the trail led into Fanton Hollow. The mouth of this hollow was a large grown-over field that reminded me a great deal of rabbit cover in southwestern Pennsylvania. Stunted blackberry bushes and ground-clinging dewberry vines made walking difficult. I was mighty happy to reach the open timber.

Climbing the ridge out of Fanton Hollow was a weight-reducing task. Rather than attempting a non-stop

climb with a rest at the top, I began pacing myself carefully. Stopping every 25 or 30 yards proved a lot better method than one burst of energy and a long recuperation at the top.

Even so, the sweat flowed freely down my face and across my glasses. I wore a light hat but that didn't make much difference. At the summit my king-sized red handkerchief felt like it had just come out of the washer.

East Fork Valley

Four hours after leaving the Prouty I reached the beautiful East Fork Valley and made camp at the mouth of Stony Run. I chose a small grove of hemlocks for a campsite. A more than adequate supply of firewood was close at hand. Nearby a little spring bubbled out of the hillside and there were no rocks that might harbor a rattler or two.

I spread my plastic ground cloth, unrolled my sleeping bag and built a fire. Soon I had a good bed of coals for cooking. Dinner for the first night was chicken baronet, instant mashed potatoes and several good hot cups of coffee. Dehydrated food or not, it tasted mighty good after a day on the trail.

As dusk turned into darkness, two deer, a doe and a fawn, approached my campfire. In perfect deer fashion



Photos here and on page 7 by Del Kerr

WHEN DRAKULA SET out on his hike, his camera was out and ready, but the one time he really wanted it, it was in his pack.

they walked with stiff-legged curiosity. Twenty-five yards from the fire the doe stopped, stamped her front foot several times and then bolted off with that typical half-snort, half-wheeze of contempt for an intruder.

Wednesday morning dawned misty and cold. (Later I learned that the temperature had dropped to 30 degrees near Coudersport.) I quickly ate breakfast, instant cereal with brown sugar and two cups of hot coffee. It took only a few minutes to break camp and I was soon on my way down the East Fork.

Along the trail deer bounded off or stood statue-like with their look of perplexed innocence. A groundhog, dripping wet from the morning dew, remained immobile in the trail until I was almost on top of him. Along the stream a kingfisher set up his raucous in-flight cry. The sun soon eliminated the morning fog and haze.

Somehow or other I passed up the bridge that crosses the East Fork and ended up on the wrong side of the

stream. Rather than backtrack, I decided to take off my boots and wade the stream. Stepping into an ice-cold mountain stream at 7:30 in the morning is guaranteed to wake anyone up.

I reached the other side of the stream, dried my feet and decided to use some of the foot powder a neighbor had prepared for me. I found the small container, looked at the label and burst out laughing. He had inadvertently forgotten the "d" in powder. The label clearly read, Foot Power. How true!

Gravel Lick Run turns in an easterly direction from the valley and leads to the McConnel Road. Gravel Lick is certainly an appropriate name for this stream. In many places these deposits completely hid any vegetation.

Once out of Gravel Lick Hollow I crossed the ridge into the East Branch of Hammersley Creek. This was one of the longest hollows on the trip. Here, the trail led through knee-high ferns, past active and inactive beaver dams, and then into the shadier portions of the valley. At a point just above Dry Hollow I ate lunch on a little promontory surrounded by the gurgling waters of Hammersley Creek. It was a pretty spot.

Soup and Blackberries

Lunch consisted of instant chicken noodle soup, tea, and a cup of blackberries that I found growing along a pipeline right-of-way. I added some of the leftover dried noodles from the previous night's dinner and a few slices of dried beef. It was surprisingly good.

After a short snooze under a big yellow birch tree, it was back to the trail. Two hours of steady walking brought me to the Elkhorn Trail. This trail leads over the ridge into the town of Cross Fork.

At the top of the ridge I met *Crotalus horridus*, the timber rattler. This snake was a medium-size yellow (color only) representative of his species. Buzzing loudly, he drew up into

the characteristic striking position. I easily avoided him.

For the next mile or so the trail wound narrowly through laurel thickets and over rocks. At any time I expected a repeat confrontation with a rattler. I didn't see another.

At the town of Cross Fork I departed from my trail diet and enjoyed a delicious dinner at the Cross Fork Hotel. The owner, Charlie Kershner, kindly offered to drive me to Ole Bull State Park where I would lighten my pack and then hike back to Cross Fork on that part of the trail south of Route 144.

Midway Point

Cross Fork is very close to being the midway point on the trail. For people who would like a good overnight hike, it would be quite easy to leave one car at Denton Hill and another at Cross Fork. Hiking the western half of the trail could be accomplished in two days, while the eastern half might require a three-day hike.

Kershner got me to Ole Bull just at dusk and I slept off the Ole Bull Trail on the outskirts of the park. My campsite was on a mountain bench not far from where the famous violinist Ole Bull had established a colony of 800 of his Norwegian countrymen. It was easy to see why he had chosen this spot. The mountains curved gracefully away to the horizon and only the sounds of the visiting campers disturbed the mountain quiet.

I awakened before dawn and discovered that my right knee was a bit swollen. It didn't hurt to walk uphill but downhill was a different story.

Last evening's filling dinner and an eagerness to test my knee caused me to skip breakfast. I broke camp by flashlight. At 6:15 a.m. I was hard at work climbing the steep mountain out of Ole Bull. It was a cool morning but by the time I reached the top of the mountain I could feel the pack straps through a sodden sweatshirt.

At the top the trail swung into and up Impson Hollow. Along this trail

I saw ten deer, one of which was a magnificent buck with velvet-thickened antlers.

From Impson Hollow I reached the Rattlesnake Trail. Such an imposing name didn't do justice to this pathway. For the most part it was all flat walking. Within an hour and a half I reached Young Woman's Creek and Clinton County. Here I found a cold spring, took a much needed rest, and did a little wardrobe altering. I replaced the heavy sweatshirt with a much lighter and more comfortable cotton knit jersey. I changed socks and undershirts. In an ice-cold tributary of Young Woman's Creek, I rinsed out the morning's attire and hung them on the lacings of my pack to dry. Some time earlier I discovered this was an adequate clothesline even though it imparted a rather hobo appearance.

Rejuvenated by the rest and feeling a little buoyant in new attire, I climbed the Long Hollow Trail and crossed into Greenlick Run.

Greenlick Run provided one of the high points of the trip. Hurrying along the trail with head lowered, I was suddenly brought upright by a noise

EXPLORER SCOUTS from Cleveland, Ohio, prepare to hike a part of the Susquehannock near the Patterson picnic area.





SOLITUDE OF THE trail, as exemplified by this mountain valley, enriched hiker, added to memories that cannot be erased.

ahead of me. There, not 30 yards away, a black bear and cub stood on the trail's edge nosing the air.

As things would have it, the camera that had bounced against my chest for most of the morning was now tucked away in my pack. For a few moments we stood facing one another. Then came a short *whoof* from the sow and both bears crashed off. If self criticism is the severest type, then I ran its gantlet for the remainder of the trip.

At 2:30 p.m. I stood on the Shepherd Road overlooking Cross Fork. Luck was with me and a pickup truck offered a ride back to Ole Bull.

State parks have fine accommodations and I often enjoy them. But spending a night surrounded by campers didn't seem much like hiking the Susquehannock alone. With several hours of hiking time remaining, I shouldered my pack and set off for a more secluded spot.

I climbed the Ole Bull Trail out of the park, crossed through a beautiful stand of beech trees and dropped into Cherry Run. At dusk I made camp at the mouth of Cherry Run where it empties into Cross Fork Creek. This was a beautiful campsite. Towering overhead were great hemlock and maple trees. Cross Fork Creek sang a sweet song close by the campsite.

By firelight I carefully checked the trail map. My calculations showed that I had approximately 25 to 27 miles remaining. Now I faced a decision. Should I hike half the distance and stop at Lyman Run? Or should I make one big push to the trail's end? I decided on the big push.

Dehydrated Banquet

A man facing a twenty-odd mile hike needs a little food in his belly. I prepared a dehydrated banquet of leftovers. I combined the noodles from two half-empty packages of beef stroganoff and set it to boiling slowly on the edge of the fire. In an empty coffee can I made coffee. While these projects boiled away, I made instant mashed potatoes in a small aluminum saucepan.

When the noodles were about half cooked, I added the rest of a package of dried beef and a foil of beef stroganoff sauce. As this simmered, I spooned out the mashed potatoes into the top of a mess kit and prepared powdered brown gravy.

The directions for the gravy say boil and stir for two minutes. However, that doesn't take into account smoke blowing into your eyes. After what seemed an interminable time, the mixture thickened and lo and behold—gravy of a sort.

Mashed potatoes, gravy, beef stroganoff, boiled beef, and coffee. That's not too good for those who are starch conscious but mighty tasty for the hungry trail man.

Before turning in I boiled some water, washed the utensils and hung them with a cord in a nearby hemlock. I leaned back against a giant

hemlock with the last cup of coffee and felt those invisible grains of sand seeping into my eyes. Eight-thirty, time to sleep.

I was up at the break of dawn. Even in midsummer, a mountain morning can be downright chilly. With numb fingers, I fixed instant oatmeal, repacked my trail pack and broke camp.

The fourth and last day of my trip was relatively uneventful. By now I was used to seeing deer and flocks of turkeys.

Hogback Hollow leading to the Cherry Springs Fire Tower did prove, however, to be one of the roughest hollows on the trip. Much of the valley floor was marshy from beaver dams. Numerous springs bubbled out of the hillsides. Every beaver dam had its population of turtles that flopped off their log perches as I passed.

I was quite happy to reach the flats of the Fire Tower Trail.

I traveled due north on the Fire Tower Trail, crossed the *Sunken* Branch Road near Corbett, and continued to Lyman Run.

Coming down the mountain into Lyman Run, I was startled by a noise that sounded like a stick being drawn across a picket fence. Just off the trail a large wild cherry tree leaned out over the mountainside. High up in this tree a young groundhog was scrambling frantically toward the ground. His feet and toenails scraping against the rough bark were unbelievably loud. About a dozen feet off the ground he lost his grip and hit the earth with a thud. He showed no ill

effects, however, and dashed into a nearby hole. I had seen groundhogs in low fruit trees before, but never had I seen one in a tree this size and up so high.

My knee remained slightly swollen but really didn't prove a great handicap. I pushed steadily on all day, stopping only for short rests and frequent drinks of water. The sun beat down and I was soaked with perspiration. My pack felt twice as heavy as when I'd started.

One Foot After the Other

Like one who has been away on a long automobile trip, there is a tendency to press down on the accelerator as the journey's end nears. I tried to increase my speed but it was useless. For the last four or five miles I simply placed one foot in front of the other.

At 5:15 p.m. the sounds of traffic on Route 6 were plainly audible. After four days of steady hiking I was back at the beginning of the trail. The trip was over.

I have been mildly criticized for hiking the trail alone. Perhaps there is some validity in these criticisms. Yet there is something wonderfully exciting and comforting about the solitude of a mountain trail. Perhaps it is the spirit of adventure, the individualism of the pioneers, or the "trust thyself" of Emerson. Whatever the reason, the swollen knee has long since disappeared, the aching back and tired legs are quite normal. There remains, however, a wealth of memories that can never be erased. I am a richer man.

Dozen Archers Took Deer During Gunning Seasons

An even dozen archers harvested deer during Pennsylvania's gunning seasons, according to a Game Commission survey. Eleven of the successful bowbenders were Pennsylvania residents. The nonresident who scored is believed to have been the first out-of-stater to take a whitetail with bow and arrow during the gunning seasons.

The survey showed that riflemen accounted for 110,245 deer during the most recent seasons, shotgunners took another 2,899 whitetails, and 359 used handguns to collect their trophies.



Huntin' With Hubby

By Mrs. Mary H. Bair

IN AUGUST, 1967, my husband Dick bought a carton of clay bird targets, handed me his 16-gauge, 200-pound (it was *too* that heavy!), double-barreled shotgun (which was collecting dust on the rack because he favored his lightweight, Fiberglas-barreled 12-gauge autoloader more), and we went out into a safe area to practice.

The whole thing had its beginnings some weeks earlier, when he decided—I didn't really bring up the subject as I recall, though I might have made some offhand remark about it one time or another—he was going to teach me to shoot so I could hunt with him. He had spent several evenings explaining to me how guns and shells and such stuff worked (though I didn't see why this was absolutely necessary; I mean, I can drive a car without knowing anything about internal combustion engines . . .), and he coached me in the proper handling of the gun (we did this in our living room, with all the drapes drawn, late at night when there was little chance of company arriving unexpectedly; the gun, of course, was empty—a fact we seemed to verify every 27 seconds). So anyway, we now were approaching the magic moment, the time when I would finally get to actually fire a real live shell.

Before that moment arrived, Dick took time to remind me of the lethal qualities of a carelessly handled gun, point out what he called the "normally effective range" of the thing in the field, and then, after asking if I were ready, from a position to my right and, I noted, well behind me, he projected one of those cute, round blue rock things out ahead. I was surprised at how well it sailed. Even after I shot. But Dick neither yelled at me, badgered me, nor made fun of me. He was very patient and, after awhile, I hit a few.

Along with the satisfaction of being able to hit an occasional blue rock, I also received a large purple mark on my shoulder that stayed with me about four weeks. Of course, it didn't hurt. (Dick told me it didn't.) It seems that a purple mark on your shoulder is some kind of distinction allowed only to the well-rounded hunter. It should be worn as a badge of honor, which I did as it was summer and all my sleeveless dresses and blouses revealed it plainly. The girls at the office where I worked were certain I had broken my clavicle or that some other sad fate had befallen me, but that wasn't true, of course. Anyway, enough of that!

The Real Test

Next came the real test. We returned to that open field about a month later to hunt the elusive dove. After about two weeks of going out every evening and getting nothing but another sore shoulder, I finally hit my first dove. After being so disgusted for so long, I finally proved to myself and my husband that I was not shooting shells which had no shot in them. By the end of dove season, I had bagged myself all of three, but nobody was ever more proud of that paltry number than I was. (I have since met other dove hunters—men!—who have brought home less.)

Then, when my housework finally became normal again, small game season was in full swing. The first day was something to remember. I didn't get one shot at anything, and finally, about 2:30 that first day, I fell over something, jammed the barrel of the gun into the mud, tore the knee out of my jeans, scraped my knee and bruised it badly. I went home!

I never did get anything during small game season, but Dick was very gung-ho on taking me doe hunting, so,



ABOUT 100 YARDS off to the left, Dick saw a doe. He told me to get my gun up and look through the scope. I did. . . .

once again I decided to submit so that I could find out just what it was that held him so spellbound during the entire hunting season from September to late December. More instructions followed, these having to do with deer.

The first day of the antlerless season found us getting up in the middle of the night, donning all sorts of clothes to keep us warm, and cramming four of us (my brother, Dave; brother-in-law, Ed; Dick and me) and an unnumbered amount of Thermos bottles, guns, raincoats, etc., into the car and heading for the wilds of Centre County. That's where our antlerless licenses were valid.

When we arrived, it was raining and freezing, giving the snow that was already on the ground an icy glaze. I jumped out of the car and landed ungracefully on, thank heaven, all those heavy clothes. Of course, I did not go down quietly. I screamed loudly, bringing disgusted looks from the other members of our party. "In ten minutes, all the deer will be over

in the next county," someone commented almost under his breath.

At last we were on our way up the mountain. My husband deposited me in a cluster of trees and rocks and then proceeded on his way over to a not-distant clump of bushes. We stood there about 40 minutes, waiting. Suddenly, I heard something that sounded like running and I could feel the hair on the back of my neck bristle. Then I heard a shot from around the spot where Dick was. About a half-hour later, I saw Dick coming toward me, dragging a doe behind him and looking very proud of himself. It was a beauty, weighing about 120 pounds. He proceeded to field-dress it, and I told him on the spot that if I were lucky enough to get my doe, he would also have to do that for me. He laughed, probably thinking he didn't have to worry about that.

Back Up the Mountain

After we took his doe back to the car and hung it from a tree limb—he dragged it and I walked along for company—I once again shouldered my gun and we headed back up the mountain. By this time, the water dripping off the icy tree limbs, plus the mist that was falling and the weight of the gun, were all making me uncomfortable. (I was very conscious of the gun, because my husband had borrowed it from his employer so I would have a rifle for hunting, and I was terrified that something might happen to it, such as banging the stock against a tree or rock or getting water in the scope.) I kept pushing myself, though, because I was too proud to let Dick or the other fellows think that I couldn't make it the rest of the day.

At long last, quitting time rolled around and we started back down the mountain to go home. I was never so happy to see a car and the dry shelter and soft seats that waited within.

Well, once should have been enough, but the next day found us all doing the same crazy thing.

It wasn't icy or raining, but after being out of the car for about 10 minutes I was convinced we had taken a wrong turn somewhere and wound up in Antarctica. Of course, after hiking up the mountain in the near dark (we got there earlier this time) and finally settling into a small cluster of rocks which kept some of the wind off of us (Dick sat with me for moral support), I had decided that it really wasn't so cold after all. I changed my mind in about 15 minutes. My teeth chattered so loudly I thought the racket would scare any deer within two miles.

We waited. I thought, "ten and one-half hours till quitting time!" Then, "eight and one-half hours."

About 10:30 I was beginning to wonder how I could go about telling Dick I didn't think I could make it another half-hour, I was so cold. Then it happened! About 100 yards off to my left, Dick saw a doe. (He had seen others, but I hadn't. I should wear glasses because my eyesight isn't too good at a distance, and he became a little disturbed because I didn't see the ones he saw.)

Through the Scope

He told me to get my gun up and look through the scope. I did. I was ready to start letting her have it, but my husband talked to me in about the same tone of voice one would use to soothe the savage beast, and I calmed down. I watched the deer with the scope. It didn't know we were there and just kept on browsing as if nobody were around to bother her. Then, as if suddenly realizing someone else was in the woods, the doe looked straight toward us. I started to become unglued again, but Dick was still talking quietly and softly, telling me to hold off just a little longer. The doe kept moving closer and closer, always with her head toward us. Then she started to turn. Dick said, "Get ready for when she's broadside." I was still very calm. As the deer turned, I put the post of the scope on the chest, as I had been briefed countless times before.

In almost a whisper, Dick said, "Now!"

I remember pulling the trigger (for your information, a 30-06 does *not* kick!), seeing her jump about six feet in the air, and land on her side, still kicking. I yelled, "Did I get her? Did I get her?" Then I got the shakes. I shook so bad that my husband was over to the deer while I was still trying to figure out how to get out of the rock enclosure that I was in. I stumbled and came close to falling several times, but I made it to the deer.

Dick said, "Hurry up and fill out your tag," and I began to start wondering what he meant by that. Finally it registered and I tried wildly to get the license out of the holder *on my back*. Finally, I figured that the best

WITH ALL MY husband's faith that I would get my deer, he had left the dragging rope in the car. We tried his belt. . . .



way to do this was to have Dick get the license out for me and then I would take it from there. I was shaking so bad and screaming "I got one, I got one!" that I couldn't hold the pencil. At last, I managed to get my name and address written, and Dick did the field-dressing. (I told him he should have taken me more seriously.)

Then came the problem of dragging the deer down to the car. Of course, with all my husband's faith that I would get my deer, he had left the dragging rope in the car. We tried his belt, and that got us about 10 feet until the buckle broke. After a lot of pulling and straining (I helped too for about 25 yards and gave up), we got back to the car. I couldn't wait for the other two to come down off the mountain to show off. I don't think I stopped smiling for a week.

When everyone came back, they were shocked, and the first thing they said was, "Who shot him for you?" (What was anybody to think but that, since I had never shot a high-powered rifle and never gone deer hunting be-

fore?) They realized, though, that nobody could be that happy over a deer that someone else shot for them, and then they decided to pick on the animal's size. Granted it wasn't the biggest deer in the mountains (it weighed about 90 pounds), but to me it was the best and most beautiful trophy anyone could have.

When we got home, of course we had to go all over town to show my trophy off to our friends.

So much for my exploits as a "big game hunter." I realize that many women go hunting with their husbands, but I truly believe that bagging some game like this is an experience you are sure could happen only to you at the time. If my husband hadn't been sitting beside me, I don't think I would have used my head and I probably would have missed the one real chance to get my deer. But thanks to his patience and experience as a hunter, I was able to infringe on a small corner of the almost totally male sport, and live an experience that I will remember always.

Book Review . . .

The Lyman Shotshell Handbook

For years, data on shotshell reloading has been relegated to the back of the book in loading manuals . . . sort of as an afterthought or fill-in when the rifle and handgun stuff was done. Here, for the first time, is an extensive booklet dedicated entirely to shotshells. It will be welcomed by the growing army of handloaders who shoot up boxcar-loads of chilled shot each year. After background information on cases, pressures, chokes, powder, primers, wads—everything important to a shotshell—the real meat is gone into; that is, the more than 1000 tested loads which form the core of this publication. All common gauges are covered—10 ga., 12 ga., 16 ga., 20 ga., 28 ga., and 410 bore—in all available lengths, from the 3½" 10 ga. with 2 oz. of shot down to the 2½" 410, with ½ oz. Loads for buckshot and rifled slugs also are covered. One of the best selections is that illustrating with cutaway, full-size color drawings all of today's readily available cases. This alone is worth the price of the booklet. (*The Lyman Shotshell Handbook*, ed. by Jim Sheridan, 160 pp., paperbound, Lyman Gun Sight Corp., Middlefield, Conn., 1969, \$3.)

PEREGRINES AND PESTICIDES

The Extinction of a Species

By M. Edith Rutzmoser

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and

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SINCE THE END of World War II, the widespread and indiscriminate use of persistent chlorinated hydrocarbon pesticides such as DDT has become one of the most controversial acts of man. Wildlife biologists and conservationists are particularly alarmed and vocal about the effects which this persistent substance has upon wildlife. Of the many species which have been affected by DDT, the famed peregrine falcon is particularly important in providing us with fundamental insights into the role which DDT plays in cycling through an ecosystem and severely altering the basic biology of the organisms found therein.

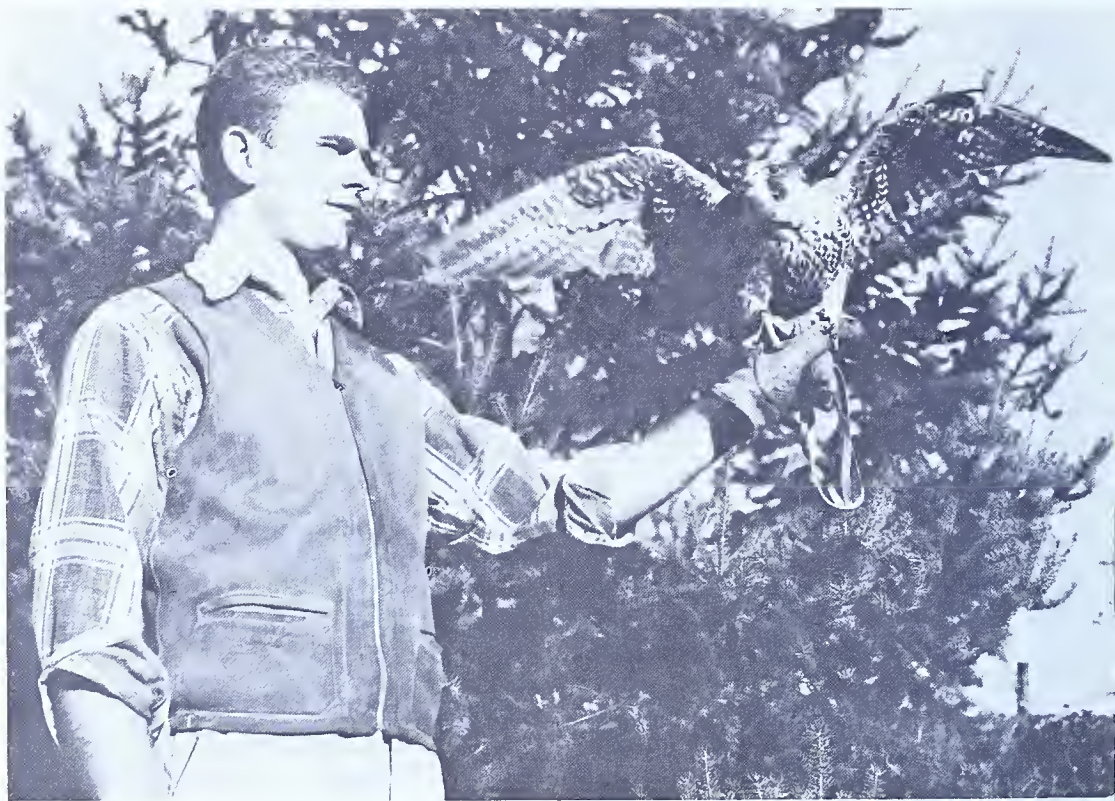
Falco peregrinus, as the peregrine falcon is known technically, is considered to be one of the most perfectly evolved species in the world. It is the only member of the pointed-winged falcons which has a worldwide distribution. Three of the species' 18 geographic races are native to North America, *F. p. anatum* of eastern North America being the one on this continent which is affected to the greatest extent by pesticides.

The peregrine falcon was never an abundant species in North America. Roger Tory Peterson estimated that there were only about 5000 individuals on the continent originally. In 1942, Joseph J. Hickey located and studied 408 peregrine nesting sites east of the Rocky Mountains. He estimated this to be about an 11 percent decline from the original population of this area. In Pennsylvania, veteran



THE PEREGRINE FALCON, acclaimed by many wildlife biologists as one of the most perfectly evolved species in the world.

ornithologist Earl L. Poole reports that as many as 34 ledges along our major rivers once served as nest sites for peregrines. Today there are no known active peregrine nest ledges in the eastern United States. In short, the species has been completely extir-



IN THE ANCIENT SPORT OF FALCONRY, still practiced by some, the peregrine falcon is held in highest esteem.

pated as a breeding bird in the East.

This is a remarkable situation in the biology of any species, and one which requires detailed study in order to determine what factors are responsible for the phenomenon. Fortunately, some of the leading ornithologists and wildlife biologists of the world are devoting their attention to the problem and some extremely interesting facts have come to light.

Breeding Cycles

The breeding cycles of all three North American subspecies of the peregrine are similar, though the falcons vary in the amount of migration which takes place. Nests, or more accurately scrapes, are made on ledges, preferably those situated on cliffs near water. The type of cliff and the ecology of the surrounding country apparently have some correlation with the success of the nesting. Joseph J. Hickey has studied nest sites and has rated them as first-, second- or third-class

depending upon their attractiveness to peregrines. Although there is some question concerning the exact role of this attractiveness of nest sites, there seems to be little doubt that one of the notable characteristics of the breeding biology of this species is its unusually firm attachment to established nest sites over long periods of time. East of the Rocky Mountains, for example, it is known that 20 eyries have a history exceeding 10 years; 14 eyries exceed 20 years; seven eyries exceed 30 years; 11 exceed 40 years; and 14 exceed 50 years. Moreover, at least one eyrie has been traced back for over a century, and others are apparently almost ageless in their antiquity. In Great Britain one eyrie has been active since Elizabethan times.

Another important characteristic of normal peregrine falcon populations is their relative stability over long periods of time. In addition, peregrines also have demonstrated an amazing ability to regain former population

levels after intensive periods of deliberate persecution. In Great Britain during World War II, for example, the Air Ministry attempted to control, by shooting, the numbers of peregrines in the country because the birds killed carrier pigeons. The result was the virtual extermination of the peregrine falcon as a breeding species in the southern counties of Britain. When the wartime persecution ended, however, Britain's peregrine population increased, and by 1951 the species was well on the way to regaining its prewar population level.

In America, as elsewhere, the members of a pair continue to return to a particular cliff year after year because of the pattern of tradition established when they were young. If one member of the pair died, he would be replaced quickly by a new bird. However, if both birds died at the same time, the tradition of use for a particular cliff would end unless renewed by other birds.

In addition to natural nest sites, peregrines have even been reported nesting, and have successfully raised offspring, on ledges of office buildings in center city Philadelphia and other cities.

The adults arrive at the nest site in late winter or spring, depending upon the geographic region in which the birds nest. After a short preliminary courtship, the eggs are laid one per day until the clutch is completed. The number of eggs per clutch ranges from two to five, with four being the usual number. The eggs are among the most handsome of all bird eggs. They require an incubation period of 28 to 30 days before hatching. The young spend 35 to 40 days on the nest before leaving it. Even after they have learned to fly, the young remain close to the nest, and the parents continue to feed them for some time before they become completely independent. In all, the length of the breeding cycle totals no less than 95 days.

From this information it appears

that the falcon has a fairly high biotic potential. However, this potential is never approached in nature so far as is known. There are many reasons for this. The eggs and young are subject to many decimating factors. Timber wolves, red foxes, ground squirrels and golden eagles, for example, have been known to prey upon the eggs and/or young in Alaska. Addling of the eggs, especially after long exposure to cold temperatures in the northern regions of the continent, and accidental destruction of the eggs are also fairly common occurrences. In addition to these factors young females may not lay eggs during the first year or so they are mated.

Most Die Young

Most young die in their first year. The causes of death after they have left the nest are, for the most part, unknown. Botulism has been reported in a few cases, but this is undoubtedly a minor cause. Starvation and disease probably also reduce the numbers somewhat, the former being a possible result of the inexperience of the young birds at hunting.

Man has been responsible for several decimating factors. During the late 1800s and the first half of this century, egg collecting was a popular hobby, and the eggs of such a rare and distinctive species as the peregrine falcon were much desired. Also, falconry is becoming an increasingly popular sport. The peregrine and a related species, the gyrfalcon, are favored birds held in high esteem by falconers. It is to the falconer's advantage to maintain the populations of their falcons and, in the past, most followers of the ancient sport have been actively interested in hawk conservation. As the popularity of the sport increases, however, increasing numbers of irresponsible and/or inexperienced people can be expected to obtain birds, and this may have a slight detrimental effect upon already rapidly declining peregrine populations.

Moreover, since World War II, nest-



PEREGRINE FALCONS TEND TO nest in an area for years, but undue harassment can cause them to leave an eyrie.

ing falcons have been subjected to considerable human harassment. In one study, 58 peregrine nestlings were banded and within two years 45 had been recovered. Thirty-one of these birds had been either shot, trapped or poisoned. In another study of the birds along the great cliffs of the Palisades of the Hudson River, peregrine productivity increased during the war years but dropped sharply thereafter until, by 1961, the population was extirpated. It was then noted that during the decline, after being unduly harassed, a pair would abandon its clutch of eggs and attempt to re-nest elsewhere.

This factor alone, however, did not account for all egg losses. In the Hudson River population, it was noted that eggs disappeared occasionally,

and egg eating by the adults was assumed to be the cause. Egg eating had been noted on rare occasions prior to 1940 but increased greatly after 1945. Though this might also be the reaction of a bird frightened by human intervention, evidence indicates another factor is involved. Egg breaking-eating and broken egg shells also appeared in peregrine eyries in Massachusetts for the first time in 1947, followed by similar phenomena in Quebec in 1949 and in Pennsylvania in 1949 and 1950.

The first clue that a new and highly unusual phenomenon was occurring at peregrine eyries was detected in Great Britain during the period 1951 to 1956 by the British ornithologist D. A. Ratcliffe. Thirteen definite cases of breakages or disappearances of peregrine

eggs from eyries were discovered in contrast to only one record during the preceding years 1949 to 1950. Unfortunately, the implications and significance of the situation were not understood. By 1961, however, Ratcliffe pointed out that most peregrine territories were deserted in the areas under his study, and that the breeding populations were being terminated by a decline which was not synchronous in all regions. Ratcliffe felt that some unprecedented influence of recent origin was responsible. Moreover, by 1960, students of birds of prey in the United States also were aware of an alarming decline in the numbers of breeding peregrines in the eastern United States during the previous decade. In Pennsylvania, for example, the final eradication of the peregrine falcon as a breeding bird occurred during the late 1940s and throughout the 1950s. The last known occupied peregrine eyrie in Pennsylvania was at Wysox in 1958.

By 1962 in Great Britain, the British Trust for Ornithology firmly established that a widespread decline in breeding peregrines was in progress. And, in addition to the declines in Britain and the United States, serious and synchronous declines were reported also from other areas of the northern hemisphere including France, Germany, Finland, Switzerland, Sweden, Ireland, Belgium and a slight decrease from Norway.

Although biologists considered a variety of causes as possibly being responsible for the decline, pesticides were highly suspect, especially since the wave-like northward spread of the decline of the peregrine coincided with the pattern of use of organic pesticides, both geographically and in time.

An important link between pesticides and the falcon population crash was established in 1961 when Ratcliffe analyzed an unhatched peregrine egg via gas chromatography and discovered 4-5 ppm of chlorinated hydrocarbon residues present including

DDE, a metabolite of DDT. This demonstrated that peregrines can take up and accumulate pesticide residues from their prey as the substances are passed up the predator food chain. Analysis of additional peregrine eggs during 1963 and 1964 again revealed the presence of DDE in the eggs. At that point, however, biologists were not certain that pesticides had harmful effects upon the birds. Nevertheless, circumstantial evidence strongly suggested so.

Hormone Alterations

In 1967, David B. Peakall of Cornell University pointed out that DDT and other substances induced enzymes in the livers of laboratory rats and other animals which inactivate natural steroid sex hormones by altering their chemical structure. Peakall pointed out that an abnormally high rate of breakdown of sex hormones into ineffective compounds could affect the chain-like series of events which are necessary for completion of a normal breeding cycle. Peakall further suggested that the egg-breaking phenomenon noted in peregrines could be the result of hormone alterations. Among the substances which the DDT-induced enzymes break down is the female sex hormone estrogen—a hormone which is known to be involved in mediating calcium metabolism in birds.

This is an important point in the story, for Ratcliffe was able to show that a significant decrease in the weight/size ratio of peregrine (and other hawk) eggs in Britain occurred suddenly during the period of 1946 to 1950 and had not recovered. This change correlated with the widespread use of organic pesticides in Britain. Decrease in eggshell weight also correlated in time with the increase in egg-breakage in Britain as it did in the United States. In 1968, Joseph J. Hickey and D. W. Anderson demonstrated a statistically significant correlation between increasing DDE concentrations in herring gull eggs and

decreasing eggshell thickness. And, most important, research biologists at the Patuxent Wildlife Research Center have now experimentally duplicated the same patterns of reproductive failure in sparrow hawks (*Falco sparverius*), a species closely related to the peregrine. The sparrow hawks were fed sublethal dietary levels of DDT approximating those now found in nature. The result was increased egg disappearance, increased egg destruction by the parent birds, and reduced thickness of the eggshells. Moreover, recent and similar experiments with mallards at Patuxent produced significant thinning of eggshells, cracking of shells and a definite increase in embryo mortality. It was found that DDD and DDT impaired mallard reproduction but less so than DDE, a substance which is formed in the body from the metabolism of DDT.

Although it is now evident that DDT and related pesticides are responsible, at least in large measure, for the extirpation of the peregrine falcon throughout many areas of the globe, no doubt there are other factors which also have caused some failure at peregrine eyries. Nevertheless, it is the opinion of the authors that sportsmen and conservationists should impress upon their legislators that DDT must be banned from use in the environment. The stakes are too high to allow this substance to contaminate the biosphere further.

In addition, we believe it is imperative that sportsmen and conservationists in Pennsylvania and elsewhere press for the complete protection of all birds of prey which are now rapidly decreasing in numbers. The noble peregrine is already on the list of endangered species, according to the latest edition of the U. S. Fish and Wildlife Service's *Red Book*. Other birds of prey, notably the bald eagle, also are classified as endangered and many additional species are rare or rapidly approaching that status. Prompt action is necessary if many of

our native birds of prey—all vital parts of the ecosystems in which they live—are to survive. No doubt what has happened to the high level predators also can happen to lower level animals including many game species as, for example, the mallard.

The pesticide problem was unforeseeable in 1942, but in roughly 20 years, coupled with human interference, it has brought about a disastrous change in the status of the peregrine. Other species of animals have undergone detrimental population changes also as a result of these compounds. Because of their persistence and their tendency to build up in concentrations as they pass up the food chain, man, as the top carnivore, may also be in eventual danger of problems which are, as yet, unforeseeable. For these reasons we believe the indiscriminate use of the chlorinated hydrocarbons must be curtailed, and DDT must be banned from application in the biosphere. Less persistent toxins and new and effective biological controls must be developed and used in place of DDT and its related compounds. Too much time has passed and too little action has been taken since Rachel Carson sounded the public warning in *Silent Spring* in 1962.

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Peat Mosses

(Sphagnum)

By Ken Calnon



MOSSES grow the world over—from the Arctics to the Tropics. But did you know that peat mosses are a very distinct and economically important group of mosses? Here are a few of their uses:

1. Dried peat moss has great commercial value in Pennsylvania. It is very popular as mulch for around shrubbery, rose bushes and the like. Gardeners mix it with soil to keep it moist. Florists also use it for packing.

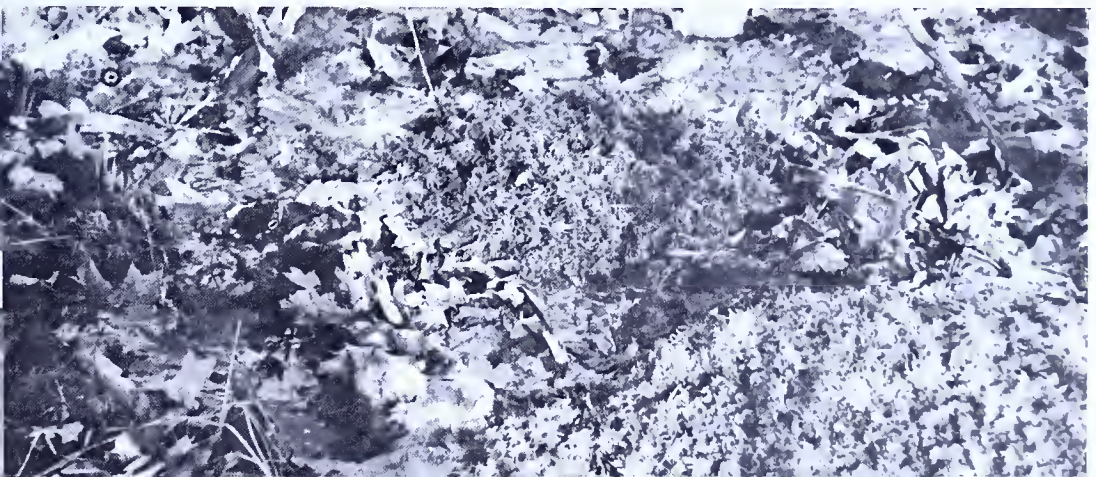
2. Peat moss has been successfully used as a substitute for absorbent cotton in surgical dressings. Why? Because of its ability to absorb up to 200 times its weight in water.

3. Peat is high in carbon content, which makes it of value as fuel. While little is used this way in our country,

many people in Ireland and the Scandinavian countries rely on peat for fuel, due to a shortage of other fuels.

Where does peat moss grow in our state? It grows in swamps and bogs in the northeastern part of Pennsylvania. It also grows sparingly in local swamps and wet areas. The individual plants are pale-green in color and are so densely packed together that they form soft, spongy beds on the ground! Sphagnum grows rapidly at the tips, leaving the dead brown leaves attached to the lower part of the stem. The accumulation of these dead leaves, plus other decaying matter, forms an organic deposit known as "peat."

On your next woodland hike, keep an eye open for one of our most unusual mosses.





*Ever Give Any Thought to the Origins of Familiar Animals?
Here's a Brief Outline That Will Stimulate Your Interest . . .*

FOLLOWING ANCIENT TRAILS

By Eugene R. Slatick

WHICH CAME FIRST, the bears or the snakes? Which type of bird has been on earth the longest, the waterfowl or songbirds?

These are questions that most of us don't think about very often. Indeed, we hardly have enough time to learn about the animals themselves, let alone delve into their ancestry. But such questions are intriguing. They can stir our sense of wonder and add depth to what we already know about animals.

To learn about animal origins we need the paleontologist to guide us along ancient trails. In a sense, he hunts the animals that lived in the past. By studying their fossils, he has learned much about their appearance and way of life. The trails he follows lead back hundreds of millions of years.

We pick up the trail about 600 million years ago. Beyond that it disappears, for the trail markers into the past—fossils—become rare. This is because the very early animals had few or no hard parts that could become fossils after they died.

At first there were only one-celled animals; later, animals with many cells. Some of these don't have backbones (the invertebrates) and some do (the vertebrates).

The trail of the invertebrates goes far back into the past. The ancestors of today's insects and centipedes, for example, date back about 300 million years. Crabs, crayfish, spiders, and earthworms go back about 420 million years. Oysters, clams, and starfish go back farther, about 475 million years.

And the forerunners of today's snails and slugs have still greater antiquity, about 500 million years.

A big step in life occurred when some animals developed a backbone, for it gave them a rigid internal skeleton. With such construction, the early vertebrates were better equipped to adapt to a greater variety of conditions. The forerunner of backboned animals is still a puzzle, but scientists have found some surprising biological similarities between the starfish and the vertebrates. The two appear to have had a common ancestor a long time ago.

420 Million Years

With a lineage dating back about 420 million years, fishes rank among the earliest of the vertebrates to appear on earth. The story of how land vertebrates branched off the fish stock is a good example of how nature adapts life to different environments.

Some of the ancient fishes living in inland waters developed lungs and were able to stick their heads out of the water and take a breath of air when the water became too stagnant. About 380 million years ago an offshoot of those fishes developed four legs instead of four fins. And a new animal, the amphibian, began crawling over the land. It was well adapted to survive the long periods of seasonal droughts that were common during the earth's early history. If a pool of water dried up or became stagnant, the amphibian could leave it and crawl overland to find a fresh one.

The amphibians were very abun-

dant 280 to 350 million years ago. Only about one-third of the various types have survived until today. The first frogs and toads appeared about 150 million years ago. Salamanders date back about 100 million years. The amphibians are, in a sense, animals with two feet on land and two in the water. They can live out of water, but they return to it to breed and lay eggs.

Juncture in the Trail

About 330 million years ago we find a juncture in the animal trail. Nature changed some of the amphibians so that they could produce eggs that could be laid on land. Their skin grew thicker, thereby slowing down the loss of body water. These new animals, the reptiles, were free to roam and find new places to live. And this they did.

Most stayed on land, but some moved into the water (although they remained air-breathers) and a few took to the air with wings made of skin. Some of the flying reptiles had wingspreads of up to 27 feet. Paleontologists think that they spent a lot of time soaring because their bodies weren't designed for walking. When they weren't in the air, the flying reptiles probably perched in a tree or on a cliff.

The most famous and spectacular of the early reptiles are the dinosaurs. Although the fiercest and largest have received the most attention, dinosaurs came in a variety of temperaments and sizes. Some were very predatory, others relatively gentle. Some were huge, weighing about 50 tons, whereas others were about the size of a chicken. They were so widespread 65 to 230 million years ago that paleontologists call that period the Age of Dinosaurs. At the end of that time the dinosaurs, together with the marine and flying reptiles, died out mysteriously. Evidently conditions on earth changed in a way that spelled extinction for them. As a group, the reptiles were most abundant about 135

million years ago; most of the various families are now extinct.

Snakes and lizards are the most abundant reptiles today. Snakes are newcomers among the reptiles. They branched off the lizard family about 70 million years ago. The early snakes are thought to have been burrowing animals. Our familiar turtles, cumbersome though they may be, are one of nature's long-lasting animal models. They have changed relatively little since they first appeared on earth, about 200 million years ago.

About 150 million years ago another juncture occurs in the animal trail we are following. It leads to the "glorified reptiles"—the birds. Unlikely as it might seem, birds and reptiles are related. In fact, dinosaurs and birds have a common distant ancestor. Similarities between birds and reptiles can be found in their bone structure and blood; furthermore, both lay eggs and have scales on their legs. The bird's feather is a variation of the reptile's scale. The development of the feather, with its insulating properties, is thought to have enabled the birds to become warm-blooded. This is a major difference between birds and reptiles.

The First Bird

The first bird known was about the size of a crow and had teeth and a long feathered tail. Birds resembling loons, gulls, cormorants, geese, and herons can be traced back about 100 million years. In general, the ancestry of the waterfowl starts about 80 million years ago, whereas the hawks, owls, and songbirds appear about 60 million years ago. The early birds probably were mainly gliders. To attain flying speed, they probably ran or climbed a tree and then pushed off. As time passed, their wings improved and they eventually mastered the technique of flapping flight. In contrast to the amphibians and reptiles, the number of bird families has increased since they first appeared on earth.



THE MOST SPECTACULAR OF THE early reptiles are the dinosaurs. They came in a variety of temperaments and sizes.

Birds weren't the only new creatures produced from the reptilian stock. About 200 million years ago we find the beginning of the trail of the most intelligent and successful of all animals—the mammals. Unlike the other animals we have encountered, the mammals have young that are born alive and feed on milk secreted by the mother. Like the birds, mammals are warm-blooded and have a high metabolism, features that enable them to live in a variety of climates.

At first mammals weren't very important because the reptiles dominated the earth. But that doesn't mean that the reptiles were more intelligent; rather, there just were more of them. The paleontologist tells us that, based on the size of the brain cavity, the early mammals had a higher intelligence than most of the reptiles living at the same time. The early mammals had to wait until the dinosaurs became extinct and other reptiles were reduced in number before they could become important. When this happened, the mammals quickly moved in to fill their places.

The first mammal-like animals were about the size of a small dog. They laid eggs and lived in the woods, where they could find cover from predatory reptiles. The pouched animals, the marsupials, appeared about

120 million years ago. Our opossum dates back to then. It has the dubious honor of having changed relatively little from its ancient ancestors. The rest of our familiar mammals had their beginning about 100 million years ago. Most of them, however, have changed more than the opossum.

When we set upon the trail of the early mammals we learn that we can't pick up a clear track until about 90 million years ago. At that time we find the ancestors of the moles, shrews, and similar animals. Like their present-day descendants, they were small and probably lived quiet lives. About 40 or 50 million years ago some of them developed wings, marking the beginning of the bats.

Carnivores

We come upon the carnivores about 60 million years ago. The forerunners of this group were weasel-like animals that probably lived in the forests or underbrush. Their descendants went along several different paths. The cats appeared first, then the weasel and dog families. One of the cat's recent ancestors was the famous saber-toothed tiger.

The ancestors of today's dogs came in a variety of sizes; some were as large as a bear. The dog family has two very familiar offshoots—the rac-

coons and the bears. The raccoons branched off first, about 30 million years ago. The bears appeared about 15 million years ago. The transitional animal leading to the bears were "bear-dogs," creatures that had characteristics of both the bear and the dog. These were large animals that fed on plants as well as animals.

The rodents, rabbits, and hares appeared at approximately the same time as the carnivores. The earliest rodent was a squirrel-like animal; the ancestors of the rabbits and hares aren't well known. The rodents have readily fitted into a variety of environments. Although they have always been generally small animals, the rodents can claim at least one giant—a beaver the size of a black bear roamed in North America about a million years ago.

When we turn onto the trail of the deer we find a variety of unusual ancestors dating back about 40 million years. Some had horns, not antlers, that grew in peculiar positions. One, for example, had two horns over the eyes and one on top of the head. Another had canine tusks. Although the

deer family is believed to have originated in Eurasia, the paleontologist tells us that our familiar whitetail is an American development that can be traced back a few million years.

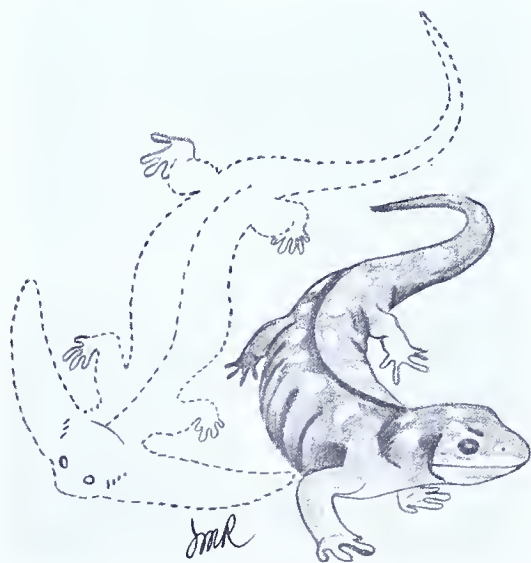
Now that we have quickly jogged down ancient animal trails, you might wonder about such trails in Pennsylvania. The state's trails lead us mainly to invertebrates, such as clams and oysters, but some fishes, amphibians, reptiles, and mammals have been found. Dinosaur footprints preserved in rock have been uncovered in Adams and York Counties. Fossils of animals that lived during the Ice Age have been discovered in swamps and caves.

Mastodons Recent

Ancient swamps have yielded a 1150-year-old deer antler (see *GAME NEWS*, February, 1963) and mastodons (see *GAME NEWS*, February, 1969). The mastodons, one of the extinct ancestors of today's elephants, were common during the Ice Age. They were heavily built animals that were covered with reddish-brown hair and browsed upon the leaves and twigs of trees. The mastodons didn't become extinct until about 9000 years ago, so they could have been here when early man appeared in North America.

Ice Age animals have been found in several of Pennsylvania's caves, but two in particular have been fossil treasure houses. These were the Port Kennedy Cave in Montgomery County and the Frankstown Cave in Blair County. Both were destroyed by quarrying operations after the fossils were recovered.

The fossils in the Port Kennedy Cave, which was found in 1870, were of giant sloths, horses, a tapir, peccaries, mastodons, cats (including saber-toothed tigers), and a giant bear. There were also bones of deer, porcupines, squirrels, and other such familiar animals. The Frankstown Cave, found in 1907, contained a mixture of animals of the past and the present:



SALAMANDERS DATE back about 100 million years. The amphibians are, in a sense, animals with two feet on land and two in the water. They can live out of water but return to it to breed and lay eggs.

birds, wolves, bears, bison, deer, musk-oxen, peccaries, tapirs, giant sloths, and mastodons.

Paleontologists think that the animals in the Port Kennedy Cave were washed in by water from melting glaciers. The cave evidently was under or near a stream during the Ice Age. As for the Frankstown Cave, the animals could have been dragged in by predators or they might have fallen in through an opening in the roof of the cave, or both.

Thoughts on Fossils

You can see some of the prehistoric animals in museums throughout the state. You know, of course, that such animals actually lived in the past. But a few hundred years ago people had other ideas about fossils, mainly because they thought the world was only a few thousand years old instead of about $4\frac{1}{2}$ billion years old. Some thought that fossils were nature's unsuccessful attempts to create life from the earth. They reasoned that the fossils never received the spark of life, perhaps because nature decided to discard a particular "model" before it was completed. Others thought that fossils were animals killed during the flood of Noah's time.

Man, perhaps the most wondrous form of life, has tracked across the earth for about a million years. In the relatively short span of a few thousand years he has changed its face more than all the countless number of animals that preceded him during the past hundreds of millions of years.

Since his coming the scene has changed rapidly from a world of animals and man to a world of man and animals. Too many animal trails have come to a premature end because of man. Scientists tell us that man has been responsible for the extinction or near extinction of more than 450 animal species. They fear that between now and the year 2000 more North American birds will have become extinct than have in the past 5000 years. But there is hope. For man has



DEER HAVE A VARIETY of unusual ancestors that date back about 40 million years. Some had horns, not antlers, that grew in peculiar positions. One had two horns over the eyes and one on top of the head. Another had canine tusks.

begun to realize his mistakes. Wisely, he is taking steps to prevent our world from becoming a place of man and a few animals.

FOR FURTHER READING

Evolution of the Vertebrates, by Edwin H. Colbert. Science Editions, John Wiley & Sons, N. Y. (1961).

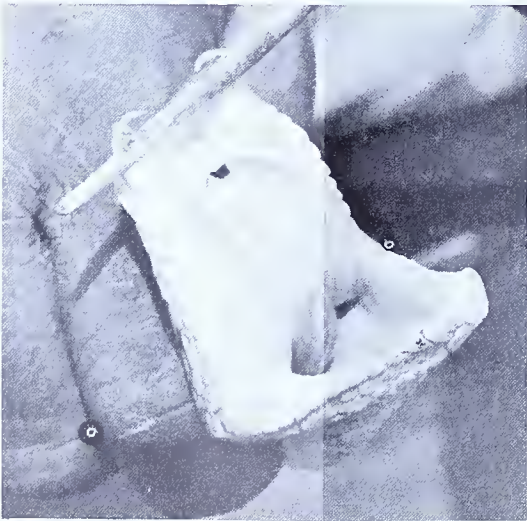
The Fossil Book, by C. L. Fenton and M. A. Fenton. Doubleday, Garden City, N. Y. (1958).

Fossil Collecting in Pennsylvania, by Donald M. Hoskins. General Geology Report G 40. Pennsylvania Geological Survey, Harrisburg (1964). Lists 63 fossil collecting localities (mainly invertebrates) and displays of fossils in Pennsylvania colleges and museums.

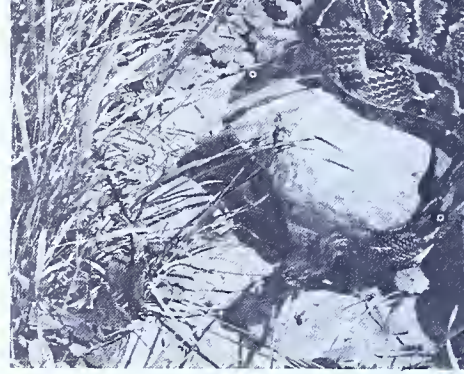
Common Fossils of Pennsylvania, by Donald M. Hoskins. Educational Series No. 2. Pennsylvania Geological Survey, Harrisburg (1968). Popular account, mainly about invertebrates.



GLEN MOYER and Adam Koch, Coopersburg, carefully search rock slide for rattlers. Below, the fangs of a Pennsylvania timber rattler.



BILL CARPENTER, former Game Commission employe, takes rattlesnake with tongs, being careful not to harm the snake.



Rattlesno

EACH YEAR since 1955, on the first of June, thousands of visitors pour into the small town of Morris. The center of interest is a roomy building where scores of timber rattlers, from the surrounding mountains, are measured and weighed. Last June, over 5000 spectators gathered to watch the others to match wits with the rattlers. The hunters are led into Rattler, Arch. A record catch of 263 rattlers has been made. The hunter is paid the hunter for each snake for use in research.

SPECTATORS WATCH CLOSELY The record at Morris is a 54-inch rattler.





e Roundup

Second Saturday in June, thousands of people gathered in the Marietta community of Morris. The arena on the Morris Fire Company grounds was filled with rattlesnakes, captured alive in the surrounding area and released in a sawdust-filled pit. They converged here, some to observe and others to purchase. Armed with snake sticks, the crowd and Cedar Run Mountains by guides. It marked the 1969 roundup. One dollar per snake caught. The snakes are later sold

ONLOOKERS WATCH IN fascination as Jerry Heistand of Marietta displays two rattlers. Below, Walter Young and Nick Williams, wearing snakeproof boots, remove rattlers for measuring. Bottom, over 250 rattlesnakes in holding pen.

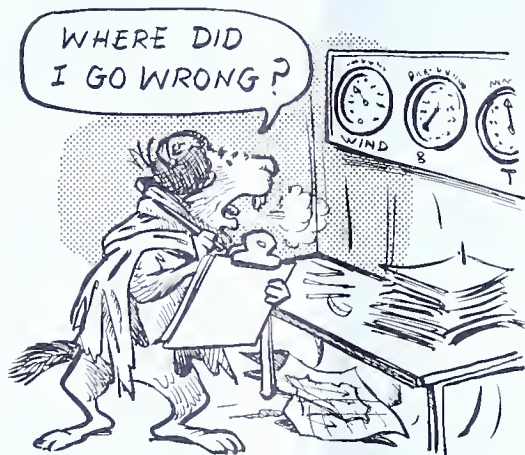
By Tom Fegely

Each snake is carefully measured. The one shown here was captured in 1966.





FIELD NOTES



Wait'll Next Year!

JEFFERSON COUNTY—Sure am glad the Punxsutawney groundhog didn't see his shadow on February 2. Probably would have had 12 inches of snow on Easter instead of six, otherwise.—District Game Protector H. G. Stankewich, Valier.

Probably

SNYDER COUNTY — The Game Commission constantly asks everyone to leave the young of wildlife alone. The following story gives several reasons why: A raccoon was retained for several years by a collar and chain. He had a comfortable place to sleep and appeared well fed. The coon was quite friendly to everyone while he was confined to the chain. One day he slipped the collar and entered the home of his host. As the lady of the house tried to evict him he inflicted injuries to her that required 20 stitches to repair. Could be he resented being confined and wanted to remain free.—District Game Protector K. W. Dale, Middleburg.

Young Conservationists

LYCOMING COUNTY—Woodcraft was the project of the Webelo Cub Scouts, Oval Paek 86, this past month. John Jenkins and I are responsible for this group of boys and it was very satisfying and encouraging to us to see the interest and enthusiasm shown by them while working on their various birdhouses and feeders. We also discussed the beaver and muskrat, explaining food habits, where they live, characteristics of each, skinning and stretching their pelts, etc. — Land Manager D. E. Watson, Williamsport.

Retribution

CENTRE COUNTY—One March 8, Centre County Judge R. Paul Campbell called to report a case of unlawful entry. While the Judge and Mrs. Campbell were vacationing, a culprit broke into their home, using the fireplace chimney to gain entrance. It is suspected that after not finding the big haul anticipated, the intruder added malicious mischief to the list of charges by damaging a number of window sashes and sills. Mrs. Campbell probably would have liked to be on the jury if this case came up in court, as the rascal also ruined a pair of new linen drapes—a sure life sentence. Rather than going to jail or facing the possibility of deportation, the little outlaw, a gray squirrel, took its own life. It was found he died of lead poisoning from the paint on the windowsills.—District Game Protector J. L. Wiker, Pennsylvania Furnace.

Beats the Commercials

FRANKLIN COUNTY—As Deputy Hawthorne and his wife Kathleen were sitting at the dinner table, she heard what sounded like a flock of low-flying geese. She ran outside but couldn't see or hear any geese. She returned to the table and again she heard them. As she went out the door she said, "No wonder I didn't see them, I looked north instead of south." But still no geese. As she sat down at the table she heard the noise again. Kathleen was somewhat puzzled until her laughing husband finally told her if she would turn off the radio, which had the volume turned down to where only a squawking noise could be heard, she might solve the mystery.—District Game Protector R. E. Schmuck, Greencastle.

Dollars and Cents—Plus

BERKS COUNTY—A resident of this district killed a big buck last December 1. Being proud of it, he left it hanging alongside his front porch. On the evening of December 4, he forgot to turn on the porch light and the next morning the deer was missing. His dog, which ordinarily barks at all strange noises, had not made a sound. He filed a claim with his insurance company under a homeowner's policy. The insurance carrier estimated the butchered weight at 115 pounds and stated they would pay him at the rate of 55c per pound for that much dressed meat. If the 116,684 deer taken in Pennsylvania last season averaged 80 pounds of dressed meat per deer, they were worth \$44 each or a total value of \$5,134,096. That is a lot of cash value, to say nothing of the recreational value which is impossible to figure in dollars and cents.—District Game Protector J. A. Leiendecker, Reading.

Trade or Sell . . .

BEDFORD COUNTY—While crow hunting one Saturday in January, I picked out and shot one particular crow because it was carrying something in its bill. The "something" was a rabbit's foot. I kept the foot, putting it in the car trunk. The next day, while driving the same car, I hit a deer. The rabbit's foot wasn't very lucky for the rabbit, didn't help the crow, wasn't any help to me. Will swap same for a headlight or a four-leaf clover.—District Game Protector T. C. Barney, Everett.



All in the Mind

LYCOMING COUNTY—One day while searching in the freezer for something to make for dinner, a friend of my wife came upon a large roast that she couldn't remember buying. During the course of dinner, Jean and Bob both praised the roast's fine flavor. Then she remembered—this was the bear roast her brother Lester had given her from the past hunting season. Bob became certain something was wrong with this roast and he wouldn't take another bite! Sure, Bob Rodichok, they can't get you to eat anything you don't like! — District Game Protector D. A. Bernhardt, Jersey Shore.

Ain't It the Truth

BLAIR COUNTY—Ecology, environment, ecosystem, polluted water, poisoned air . . . what a heritage to pass on to the next generation.—District Game Protector P. R. Miller, Bellwood.



Shoulda Gone Huntin'

MONTGOMERY COUNTY—Two friends of Bob Redd of Norristown were fishing in the dam above Schwenksville on Perkiomen Creek. One hooked a big muskie and the other was taking movies. The fisherman can be seen fighting the fish and looking over his shoulder to make certain his buddy is capturing all of the action. After a considerable battle, the film is black because, with a fish that size, it took both men to get the fish into the boat from which they were fishing. The next scene shows the proud smiling fisherman holding a large muskie for the viewers to see. Then you notice waterspots on the film and next a lot of bubbles. During the fierce battle, both men forgot about the dam. You're right—boat, both men, two large open tackle boxes, fishing poles and one large muskie went over the dam. I wonder, did the fish get away?—District Game Protector H. T. Nolf, Telford.

A Sad Loss

ADAMS COUNTY—It is an easy thing for conservation officers, with their constant exposure to hunters and long hunting seasons, to sometimes overlook or underestimate the enthusiasm of those participating in this sport. Such was very evident in a situation experienced by Deputy Chester Shriver when he checked a 14-year-old hunter in the South Mountain area the past deer season. It seems the youth was scheduled for major surgery as soon as school was over and it meant that he was going to have to sit out next hunting season to recover. He was manfully accepting this sacrifice with the hopes that he would have many more seasons coming up. Only a month later, a fatal heart attack claimed the life of this brave young man.—District Game Protector J. J. Troutman, New Oxford.



Snowshoe Sniping

POTTER COUNTY—Some fellows start early! On March 30 I checked two hunters who had bagged five woodchucks and one crow all in the same field—a field which they had to get to by walking through two feet of snow.—District Game Protector D. W. Jenkins, Galetton.

Rare Bird

YORK COUNTY—Ebert Blymire of Craley recently reported to me that he had observed two eagles in the Holtwood area of the Susquehanna River, York County. He has been unsuccessful in photographing them. Hope he gets some pictures before they are extinct in this area.—District Game Protector R. L. Yeakel, Red Lion.

Begins at Home

WASHINGTON COUNTY—Instead of traveling to the northern counties of Pennsylvania for their annual cleanup of streams and forests, during the past winter the Boy Scouts of Washington and Allegheny Counties conducted a cleanup of their own streams and forest. Its very gratifying to work with such a group and to see the improvement made to the counties they live in.—District Game Protector F. D. King, Washington.

Mistaken I.D.

CLARION COUNTY — In early March I received a call from a trapper who thought he had a bobcat in his trap. He was advised not to harm it in any way and told that I would be there to see it as soon as possible. We had had other reports of people seeing a bobcat in this area recently. Upon arriving at the scene, it was quickly determined that the animal—a large grayish-colored cat with dark markings—was a very large domestic cat without a tail. Now I feel certain that the other reports from this area were valid, and the people did see a bob-tailed cat, but the chances are good that they saw this fine imitation rather than a real bobcat.—District Game Protector L. L. Harshbarger, Knox.



Tit for Tat

MERCER COUNTY—A dog chasing game is standard procedure in hunting, but Cassius Fritz of Sheakleyville tells me of his neighbor's collie dog being held at bay in his doghouse by a ring-necked pheasant. Turnabout is fair play.—District Game Protector B. K. Ray, Sheakleyville.

Goose Gunnin' Comin'

SNYDER COUNTY — It should be of interest to the waterfowl hunters along the Susquehanna River that during March approximately 4000 geese stopped on the islands on their trip north. If they stop over on the return trip in the fall, it should provide some good goose hunting along the river. This is the first year since working on the islands that we have had anywhere near this number stop over in the spring. — Land Manager I. L. Dodd, Beavertown.

Parking Places

CRAWFORD AND ERIE COUNTIES — Geese, ducks and swans are showing up in good numbers on the ponds that have been developed on Game Lands in Erie and Crawford Counties.—Land Manager A. D. Fichtner, Grand Valley.

Don't Tell Wife

BRADFORD COUNTY—Heard of a local hunter who during the past hunting season spent \$235 for guns, \$150 for doctor bills after a twig injured his eye while hunting, and \$75 for a new transmission because the old one went trying to get his car out of a snowbank. Total cost, \$460. Total amount of game taken: four rabbits, two of which were fed to the dog.—District Game Protector A. D. Rockwell, Sayre.



Next Time . . .

HUNTINGDON COUNTY — On March 18, I met some Food and Cover Corps men near Spruce Creek, to start them on a new border cutting area. The crew drove their trucks through a barnyard to park. I followed with the car but made it only halfway due to deep snow. So I parked. Returning to the car I found cows all around it. One cow had broken my radio aerial off and was dragging it around. The two-way radio antenna was bent down with the end sticking into the ground. On top of all this, I got a free wash job. They had licked the sides of the car clean. All I needed was for one of them to crawl on top of the car to clean this too.—Land Manager W. H. Shaffer, Huntingdon.

Dedicated Group

COLUMBIA COUNTY — Deputy Michael Vinosky, while checking for late hunting on a Farm Game Project during the archery season, saw two men returning to their auto in complete darkness. As they passed a pigsty, Mike overheard one hunter whisper, "Let's nail one of those pigs—who's going to know the difference?" He quickly prevented an act that possibly would have cost the honest sportsman about 500 acres of open hunting land. When questioned, the hunters stated that they were just joking. I wonder. This is just one example of the excellent work done by Deputy Game Protectors that usually goes unnoticed and unheard.—District Game Protector E. Sherlinski, Millville.

Progress

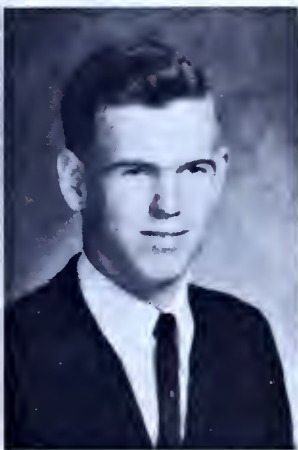
SUSQUEHANNA COUNTY — Last year was the first year in the history of my district in which there was not a single hunting accident. We who participated in conducting hunter safety courses would like to believe our efforts played a part in this reduction. My thanks to all members of sportsmen's clubs, schools, churches and service organizations who shared in this program.—District Game Protector D. Day, Susquehanna.

More Progress

DAUPHIN COUNTY—In less than one year over 100 acres of strip mines have been backfilled on State Game Lands 264, Short Mountain, in Dauphin County. Thirteen of these acres are already planted in food strips for wildlife utilization. Thousands of evergreen seedlings will also be planted soon on these areas, along with more food strips. — Land Manager B. D. Jones, Elizabethville.



CONSERVATION NEWS



Jeffrey Wingert
Chambersburg



Gary Miller
New Alexandria



Ed Wilson
Clearfield

Wildlife Conservation Awards, 1969

FOR THE THIRD year in a row, the first-place award in the FFA Wildlife Habitat Development Contest was won by Gary Miller of New Alexandria. This is an outstanding achievement, and we want to congratulate this young man who attends Derry Area Senior High School in Westmoreland County.

Second-place winner was Jeffrey Wingert, RD 3, Chambersburg, and third place went to Ed Wilson of Clearfield, another repeat winner, as Ed was second in last year's contest.

Winners in the Pennsylvania Game Commission's six Field Divisions were: Northwest—Ken Rogers, Charles English, Richard McKinnis; Southwest—Sheldon Bowman, Luke Rouch, Mark Bowser; Northcentral—Brad Boalich, Jeff Conklin, Ronald Sipe; Southcentral—Reuben Coldsmith, Ivan Long; Northeast—Neil Peters, Tom Murray,

Lynn Smith; Southeast — Eugene Weiner, Marlin Reinbold.

The Pennsylvania Department of Public Instruction and the Game Commission are cosponsors of this competition, which may be entered by any vocational agricultural student in Pennsylvania. The students set up work plans in land management, predator control, conservation education, marsh and stream development, firearms safety, etc. These plans must be approved by the student's Vocational Agricultural area advisor, his Vo-Ag teacher and the local Game Protector. Projects are inspected by Game Commission representatives and Department of Public Instruction personnel. Judging is done by comparing the area with photos taken before work started. Prize money of \$1000, provided by the Game Commission, is divided among the winners.

Ouch!

The defensive armor of the porcupine consists of approximately 30,000 quills.

Pennsylvania and South Dakota Exchange Game Birds



PGC Photo by Joe Osman

Sharptail Grouse

CONSERVATION AGENCIES in Pennsylvania and South Dakota have exchanged wild-trapped game birds in experimental programs in both states. The Pennsylvania Game Commission has shipped to the South Dakota Department of Game, Fish and Parks 200 ring-necked pheasants, and in return has received 200 sharp-tailed grouse.

South Dakota once had more pheasants than any other state, but populations of this game bird have declined there sharply in recent years. In the Midwest, ringnecks regularly roost on the ground, while the strain found in Pennsylvania often can be found roosting in trees and bushes.

Conservation officials in South Dakota are anxious to see if the bush or tree-roosting trait from the Pennsylvania birds can be carried over into their stock.

The pheasants were trapped in the Keystone State on lands closed to public hunting.

The sharp-tailed grouse have been released in two study areas in northern Pennsylvania. About half of the birds were males.

An adult sharptail is about midway

between a pheasant and ruffed grouse in size, weighing between $1\frac{1}{4}$ and 2 pounds. It is similar in coloration to a hen pheasant, but has a short pointed tail.

The bird is polygamous like the pheasant, breeds from April to June and hatches from May to July. Nine to 17 eggs are ordinarily found in a clutch, with the average being about 11. The eggs are incubated between 21 and 24 days before hatching.

Sharptails feed on buds, berries and herbage, and prefer open land, especially brush prairies, sometimes brush areas, bunch grass if near suitable deciduous brush and trees for winter buds, and sagebrush country. Other suitable habitat for sharptails can be sparsely timbered areas, burned-over lands and cleared areas.

Pennsylvania has thousands of acres of reverting farmland which is no longer suitable habitat for pheasants and quail but has not yet reached the stage where it is attractive enough for ruffed grouse. The release of the sharptails is part of a continuing effort by the Pennsylvania Game Commission to find a game bird species to fill this unoccupied habitat niche.

For the past eight years the Game Commission has released Korean pheasants in reverting farmland habitat, but results thus far have been inconclusive.

Unsuccessful in '50s

Sharp-tailed grouse were released in Pennsylvania in the early 1950s, but those experiments were unsuccessful. Study areas for earlier sharptail releases, the Korean pheasants and the new sharptail releases have all been in different localities.

The recently-released sharp-tailed grouse were all banded, and anyone finding one of these banded birds is asked to report the information to the Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa. 17120.



PGC Photo by Fred Servey

EAGERNESS OF SPORTSMEN TO keep up to date on Game Commission's activities is shown by group at PGC booth during West Penn Sportsmen's Show in Pittsburgh.

LAND MANAGER WILMER PEOPLES dissects a road-killed deer to show the relationship of bone marrow to the physical condition of the deer. Watching intently are members of Boy Scout Troop 401, Hawley, who had been helping erect wood duck nesting boxes.

PGC Photo by Steve Kish



Over 21,000 Road-Killed Whitetails in 1969

Last year, Game Protectors picked up 21,246 deer killed by vehicles in Pennsylvania.

While the size of the state's deer herd was rising during much of the past decade, deer mortality due to vehicular collisions climbed steadily to the point where 22,610 whitetails were recovered from the state's roads in 1967.

As the Game Commission's program to reduce the size of the Commonwealth's deer herd progressed, the number of deer killed on the highways began to fall. The 1968 toll was 21,607.

In addition to the highway toll, last year almost 6000 deer were known to have been killed because of crop damage, by dogs, illegally, etc.



JOSEPH BERRIER, 79, and Theodore Berrier, 65, sons of Joseph Berrier, one of Pennsylvania's first Game Protectors, display their father's badge and 45-70 Springfield carbine. Lifelong residents of the Harrisburg area, both were Deputy Game Protectors, following the family tradition of service to conservation. Another brother, John, deceased, was a Field Supervisor in the Northcentral Division.

Photo by John Plowman

Waterfowl Museum Now Open

The Pennsylvania Game Commission's Wild Waterfowl Museum at Pymatuning Lake near Linesville, Crawford County; will be open until November 30 this year, according to Ray M. Siekles, waterfowl management agent.

Nearly 300 mounted specimens, representing about 90 species, are on display at the museum. All of the specimens were collected at Pymatuning.

The waterfowl museum is located one mile south of Linesville on Legislative Route 20006. Museum hours during May, June, October and November are from 10 a.m. until 5 p.m. prevailing time. Hours for July, August and September are from 10 a.m. until 7 p.m.

More than one-quarter million visitors are recorded at the museum each year. Large groups planning to visit should make reservations with Siekles at Linesville, RD 1, or by telephoning either (412) 927-2199 or (814) 682-2005.

20,000 Game Birds Released in State

About 20,000 game birds were released in the state this spring under the Pennsylvania Game Commission's stocking program.

Ralph E. Britt, Game Commission propagation division chief, said that about 1900 wild turkeys of both sexes were liberated. Also released were about 5100 male ring-necked pheasants and approximately 13,000 hen pheasants.

Under the Game Commission's stocking program, larger numbers of birds are released in the fall, both prior to and during the hunting seasons. In addition to turkeys and pheasants, the Commission will also release bobwhite quail this fall.

Days of Yore



THE YEAR 1910 WAS A GOOD ONE for rabbits, as proved by this photo taken on a farm about eight miles from Claysville in Washington County. Hunters, all from McKeesport, were C. W. McClure, Miller Gilbert, Rudolph Hoinkes and George Hoffman.

Over 139,000 Archery Licenses

Archery hunting license sales for the 1969-70 year will top 139,000 according to the Pennsylvania Game Commission.

More archery licenses are sold in Pennsylvania than in any other state, and the 1969-70 figure represents an increase of about 7000 over the sales for the previous year.

Allegheny, Westmoreland and Cambria Counties are the leaders in archery license sales. More than 11,300 were sold in Allegheny, Westmoreland's sales topped 6100 and sales in Cambria exceeded 3900.

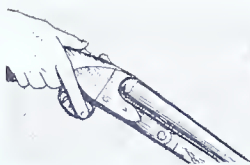
Notice . . .

We receive many letters at the GAME NEWS editorial offices, and make every effort to answer each one. Occasionally, however, we get a letter, usually unreasoningly critical of something, to which we cannot reply, as it bears no signature or return address. The writer often suggests that his letter be printed in GAME NEWS. Anonymous letters will not be printed.

EDITORIAL . . .

(Continued from Page 1)

and fishermen are recognized for their leadership and magnificent crusades of the past seven decades. As for the host of newcomers to conservation, sportsmen should say, "Welcome aboard." All Americans are needed in the fight to use our natural resources wisely. — *Charley Dickey, Director, National Shooting Sports Foundation*



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



PERSONNEL FROM GAME COMMISSION and Penn State prepare for another day's filming on *The Hunting Game*. PSU Photo

The Hunting Game

OFF SIDES, on sides, right position—all play an important part in football—and hunting. Understanding basic fundamentals and being in the right position at the right time are important to playing the game. This has been proved by Penn State's football team, undefeated in 30 games stretching over three seasons. With football and hunting much alike in many ways, Pennsylvania State University has completed a hunter safety educational film entitled, *The Hunting Game*. It is provided by Robert Wingard, Chairman, Forestry and Wildlife Management, in cooperation with The Pennsylvania State University Agricultural Extension Service and the Pennsyl-

vania Game Commission.

Opening with the important consideration of each player's assignment and each hunter's responsibility, *The Hunting Game* elaborates on the reasons for accidents while hunting and presents information of how to hunt safely. The film clearly defines that category of accidents which are inflicted by others and emphasizes that the hunter should know his responsibility to others and his hunting assignment.

Featured in the film are Penn State coach Joe Paterno, diagramming a play for success, and Bill Sipple, Professor of Agricultural Extension, presenting the hunter safety instruction

for safe hunting. Most films have a musical sound track, but *The Hunting Game* is narrated with a background of outdoor sounds familiar to the hunter.

The film has been viewed by many groups who have commented on its value to hunter safety training. Michael C. Fasnacht, advisor of Explorer Conservation Post 165, Ephrata, said, "We have had the opportunity to view the new film, *The Hunting Game*. There were adults there as well as many boys 14 to 17 years of age. All of the adults are hunter safety instructors and have given the hunter safety course a number of times using the Game Commission's visual aids.

"We unanimously agreed that this is one of the best visual aids we have seen for use in hunter safety instruction. It is entertaining as well as informative. It will be excellent for use as a refresher for adults and boys and girls who have already received the basic hunter safety course. We hope that all hunter safety instructors will be made aware of this fine film and will use it. All of those responsible for the production of this fine film are to be commended."

The Tussey Mountain 4-H Club, an

important conservation group from the State College area, took part in making this film. Many of the members provided hours of their time for filming activity. Getting participants for any such film, in addition to special areas for scenes, is a difficult task, and this was the responsibility of District Game Protector Joe Wiker from Pennsylvania Furnace. Wiker worked many hours with the photography crew. His contacts with landowners, stemming from his work as a Game Protector and his conservation work with the 4-H group, were the keys to ideal territory for this film. All Bill Folwell, Agricultural Extension Photographer, had to do in directing the film was to mention what he wanted, and Joe knew a landowner who obligingly co-operated.

Anyone who is interested in this excellent hunter safety film should contact the Pennsylvania Game Commission or the Pennsylvania State University Extension Service.

Many of the county extension agents have been using this new film with hunter safety training, and have very favorable comments about its contribution to the knowledge of hunting and safe gun handling.

Late note: "The Hunting Game" has just been selected as one of the top award winners in a national competition sponsored annually by the American Association of Agricultural Education. Films from fifteen states were entered.

Hunter Safety Exhibit

Hunter Safety is the theme for the Pennsylvania Game Commission's major exhibit for 1970. It was initially previewed at the Pennsylvania Farm Show, January 12-16. The format is Pennsylvania's Safe Hunter Brassard, featuring multiple screen projection of hunter safety training. Many high points in safe handling of sporting arms are presented on one titled overlay, followed by individual visuals of each subject on five screens.

The photographs cover selection, handling, and knowledge of sporting arms, hunter-landowner relations, and conservation practices. The four-minute visual presentation uses 360 slides. All phases of Pennsylvania's Hunter Safety Program and course of instruction are presented. They vividly show what can be done to prevent hunting accidents.

In addition, a target backdrop with fluorescent orange clothing is displayed at the Game Commission booth, encouraging the hunter to wear this recognized safe color. Swatches of the true fluorescent orange color are available at the booth as a guide for the hunter purchasing quality color material.



PGC Photo by L. E. Bittner

DEPUTY GAME PROTECTOR Herman Smith demonstrates proper method of stringing a bow at Belfast-Edelman Sportsmen's Club.

Congratulations

A special note of thanks is in order for all hunter safety instructors for a job well done. The transition to compulsory hunter safety training during the past year has been very successful. All first-time hunters desiring to hunt had an opportunity to participate in a scheduled four-hour hunter safety course.

Although hunter safety is encouraged before September 1, the greatest interest always occurs just prior to the hunting season. During the past year, approximately 75,000 students were certified. Field reports for September and October show that 24,063 students received hunter safety training in those months, with 11,002 in September and 13,061 in October. To date 248,946 safe hunters have been certified through Pennsylvania's Hunter Safety Program.

More First-Time Hunters

Pennsylvania's hunting license sales for 1968 showed an increase over the previous year, with 1,028,568 resident and 90,004 nonresident hunters afield. This was our highest number ever. A very significant increase of 19,115 junior license hunters purchased hunting licenses. This calls attention to the need for hunter safety training to meet the increased interest of first-time hunters. Age surveys indicate that approximately 25,000 hunters between 12 and 13 years of age and 15,000 hunters between 14 and 15 years of age held no previous license.

That Figures

Snapping turtles cannot swallow unless their heads are submerged; hence they never feed out of water.

Don't Pick Up a Hitchhiker

By Arthur R. Jeffery

Entomologist, Bureau of Plant Industry
Pennsylvania Department of Agriculture

THE GYPSY MOTH, an insect that has existed in this country since it was introduced by a French scientist in 1869, is moving by leaps and bounds, despite all efforts by government agencies to prevent it. During 1969 alone, the insect moved into areas in Pennsylvania more than 75 miles southward and westward of any previously known point of infestation. At the same time, it was found in isolated locations for the first time in Maryland, Delaware and Virginia.

The principal reason for the rapid spread appears to be carrying of the egg clusters by persons who do not realize what they look like or are not acquainted with the danger and potential hazard concerned with this particular insect.

In 1969, agents of the U. S. Department of Agriculture and similar personnel in various states have found egg clusters of the insect on camping equipment, camping trailers, house trailers and various other objects such as rocks and firelogs being moved from areas heavily infested to distant points not infested, but with climatic conditions and trees that would make ideal habitat for the insect to become established and be another major pest.

In 1969, the gypsy moth was responsible for defoliation of more than 250,000 acres of timberland in the New England states, New York, New Jersey and Pennsylvania. Repeated defoliation of hardwood trees results in serious loss of growth and eventual death of trees. In the case of evergreens, a single defoliation usually causes death.

In addition to actual timber losses, heavy infestations of the insect cause complete forest defoliation, with loss of forest cover as watershed protec-

tion and habitat for birds and game. The nuisance caused by migrating caterpillars has caused resort owners to wring their hands in anguish.

The insect passes the winter in the egg stage, and hatching takes place in Pennsylvania about the middle of April. The tiny caterpillars start to feed immediately, and in a period of



Adult gypsy moth

about six weeks, grow to full size, about $\frac{3}{8}$ " in diameter and three inches long. Severe damage to practically all species of forest vegetation is caused by feeding of the caterpillars during this period.

They turn into a pupa in the early part of June, and remain in this stage for about two weeks. The adults normally begin to emerge in late June. The male adult is a strong flier, and can be found for distances up to several miles from the point of origin. New infestations are detected by trapping of these male moths. Government agencies, both state and federal, place the traps in areas where infestation is suspected. The traps are modified type of Dixie cup, baited with an extract from the sex gland of the female moth and coated on the inside with Tanglefoot to imprison the male moth once

he has entered the trap. When male moths are found, the area is carefully searched to locate the exact point of infestation.

The female moth is so heavy with eggs that she cannot fly, so is always found only a few feet from the empty pupal case from which she has emerged. The female moth lays a cluster that contains an average of 500 eggs. This is deposited in any available sheltered location. Since it takes only a few hours to lay the complete egg cluster, they can be deposited on camping equipment that is parked for only a day or two. The egg cluster is oval in shape, about one-half inch wide and one inch in length. It is covered with light brown hairs from the body of the female moth. This egg cluster, once deposited, will remain on the object to which it is attached until hatching time the following spring.

Eggs on the sides of trees exposed to the sun will frequently hatch a month or six weeks sooner than eggs under rocks in a shady and cool location. This causes the larvae to mature over a similar time span. Conse-

quently, the eggs are deposited from late June until mid-August under Pennsylvania conditions.

In Pennsylvania, there are no natural control agents operating effectively. The gypsy moth caterpillars are covered with stiff bristly hairs, so birds will not eat them. If they fall into water, fish will not eat them.

Henry F. Nixon, Director of the Bureau of Plant Industry of the state Department of Agriculture, is responsible for attempting to keep the insect under control and prevent further spread. He feels that the traveling public, fishermen, hunters and lovers of the outdoors can assist in this effort in a substantial manner by learning to recognize the various stages of the gypsy moth, and by examining camping equipment and materials that carry egg clusters before going from an area that is heavily infested to some other location. The egg clusters, when located, can easily be destroyed by application of gasoline, kerosene or other similar product that is normally carried by most sportsmen on outdoor trips.

GYPSY MOTHS OFTEN LAY THEIR eggs on camping equipment, firewood, etc. When moved, this can cause infestation of new areas.



Be a Good Shopper



By Les Rountree

IN CASE YOU haven't been watching, camping has become a very sophisticated game. It is an impossibility to keep track of what's new each year unless you have your own private computer. By the time the struggling outdoor reporter has had a chance to try out the new self-erecting whoosis, the company that designed it has come out with a *new improved* model . . . and there we go again! Now don't think for a minute I'm going to long for the good old days of camping when sleeping bags were two blankets pinned together and all the tents leaked and pop-up trailers and pickup campers were unheard of. Not at all. Roughing it is still okay, to a point . . . but I'll take a little comfort along with it, thank you. There are a lot of useless products floating around the camping market today. A lot more will be introduced in the years to come, but for the most part the junk is soon weeded out by the American camper . . . who

is getting to be a pretty sophisticated creature himself. My definition of a sophisticate here is not "stuck up snob," but rather one who knows the score and makes his camping decisions with care.

In fairness I must admit that I don't actually believe that the manufacturers come out with new models every so often just to confound us, but because the campers themselves have demanded better products. There are more of us now, we have different tastes and we don't want to have every piece of our equipment looking just like the next guy's. If we have been at the game for a few years we have had the chance to compare and look over a lot of different gear, but if you happen to be a first-timer, how in the world do you make up your mind which camper to buy . . . which stove . . . which sleeping bag? Of course the obvious answer is to buy a well-known brand name and put your trust in the integrity of the com-



SPORTSMEN'S SHOWS give prospective buyers an opportunity to compare many makes of a given item, help him get just what he wants.

pany. In most cases this works out well, but there are times that lesser known products offer equal or better values than some of the big brands. Here are some of the things to look for when you are comparing.

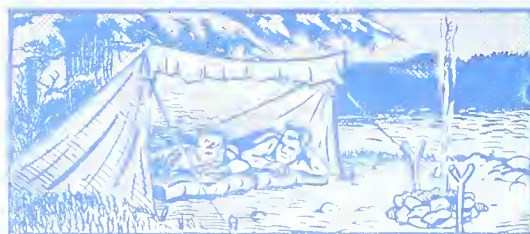
For anything that's put together with thread, look for nylon. This includes sleeping bags, tents, clothing, boots, packs and a hundred other items that campers wind up having to have. It doesn't cost the maker much more to use good thread and I'm surprised that some of them still use cotton. Watch, too, for double stitching and loose ends. Any well finished product will be reinforced at points of stress and there won't be a lot of hanging thread ends that can pull loose or otherwise just be annoying.

Insist on nylon or another rugged synthetic for mosquito netting and windows on campers and tents. In an effort to cut price (or cut corners, without cutting price) the size of these openings will sometimes be reduced. Insist on good-sized windows that really do offer ventilation and visibility.

Tied in with tent openings we have the subject of zippers. And like it or

not we have zippers appearing on just about everything these days. When a zipper is working, nothing can quite take its place . . . and when it isn't working it's an abomination. A good zipper works freely and doesn't need to be fiddled with for half an hour to get started. The attachment of the zipper is as important as the quality of the zipper itself. If it's been sewn on haphazardly, that's just the way it will work. Always try a zipper several times before you buy any item that wears one, and that includes tents, campers, clothing, boots, sleeping bags and gun cases. If one doesn't work easily, forget it. Cutting your way out of a sleeping bag or tent is not conducive to good camping. If your zipper does work well, be kind to it by occasionally touching it with a drop of light (*very* light) lubricating oil. This will prevent rust and continue to keep it free running. If you use any zippered item near salt water be sure to wash it off with fresh water as soon as possible.

On all metal products look for smooth jointures and well-rounded edges. This includes pickup campers, trailers, camp stoves, fold-up tables and chairs and a host of other things. Aluminum is the big thing now and most body shells make use of it. Unprotected or sloppily cut corners and edges are not only unsightly but dangerous. At corners and other spots where rivets or metal screws are used, look for cracks and other imperfections that will cause water and dust leaks. Do the door latches work easily and does the door shut reasonably tight? How about attached hardware—Is it securely fastened? Compare prices carefully. Does manufacturer X want \$200 more for his product just





TODAY'S OUTDOORSMAN HAS A WIDE selection of equipment that was undreamed of a generation ago. It both simplifies and complicates his life.

because it has a racing stripe, or does it really offer some sound construction features?

In the case of travel trailers or pop-up campers, look the undercarriage over very carefully. This is the part that moves and also happens to be the part that most campers seldom bother to look at. If you don't feel that you're enough of an expert to judge chassis construction, ask someone who does know. Better yet, take a trial run around the block and up the nearest freeway with the trailer you intend to buy. Any reputable dealer will let you do this and it's an excellent way of finding out if your car and prospective dealer are compatible. In the extreme, for example, a 25-foot Airstream trailer was not designed to be pulled by a Maverick.

The salesman with integrity will make every attempt to sell you a trailer that is within the load hauling limits of your vehicle. You'll get the same kind of treatment from a knowledgeable rental agency. They have had a lot of experience with disgruntled trailer pullers and they certainly want to do everything in their power to avoid more of them. Listen to their recommendations and then, after

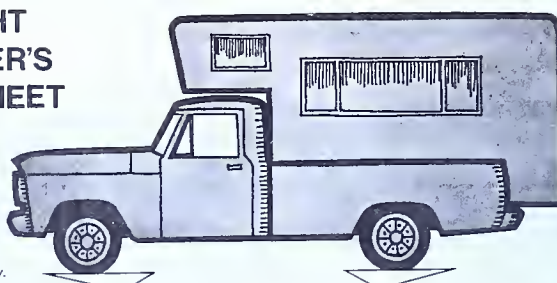
you've made your decision, load your trailer intelligently. Take what you really need, no more, and then balance out the load so that the weight rests on the trailer tires and not on the back bumper of your pulling vehicle. You can always spot an imperfectly or overloaded trailer at night. He's the guy whose car headlights are scanning the heavens for incoming airplanes.

Plastic Rooftops

Many of the recently introduced pop-up campers are utilizing plastic material for rooftops and other attachments. Some of this material is very good and some of it is highly susceptible to cracking, particularly where rivets, bolts and other metal fittings are connected. Make sure that cracking has not already started on the showroom floor. If it has, that camper won't last long in the field. Some of the foam rubber mattresses supplied with all types of campers are very comfortable. Some are so thin that to roll over at night can be a painful experience. Be sure to try them out for a few minutes before you plunk down your money.

The fast growing field of pickup

WEIGHT WATCHER'S WORKSHEET



As you load up,
use this form to
make it easier
to keep track of the
weight your pickup will carry.

1. Your pickup's weight

- ☐ Curb Weight _____
- ☐ Optional equipment _____
- Aux. Gas Tank _____
- Air Conditioning _____
- Step Bumper _____
- Trailer Hitch _____

TOTAL PICKUP WEIGHT _____

2. Your camper's weight

- ☐ Dry Weight _____
- Water (@ 8.4#/gal.) _____
- ☐ Butane _____
- ☐ Ice _____
- ☐ Batteries _____
- ☐ Optional equipment _____

TOTAL CAMPER WEIGHT _____

3. Household equipment

- ☐ Bedding _____
- ☐ Towels, etc. _____
- ☐ Cooking utensils _____
- ☐ Dishes, silverware, etc. _____
- ☐ Miscellaneous _____

TOTAL HOUSEHOLD EQUIPMENT _____

4. Food

5. Beverages

6. Clothing

7. Personal equipment

- ☐ Fishing tackle _____
- ☐ Golf clubs, carts, etc. _____
- ☐ Scuba gear _____
- ☐ Skis, poles, boots _____
- ☐ Cameras _____
- ☐ Rifles, shotguns, etc. _____
- ☐ Surfboards, canoe, etc. _____
- ☐ Miscellaneous _____

TOTAL PERSONAL EQUIPMENT _____

8. Tools, tire chains, jacks, etc.

9. Outboard motor

10. Trail bike

11. Trailer tongue weight

(20% of total trailer weight)

12. Miscellaneous

TOTAL MISCELLANEOUS _____

13. Total weight

Your pickup's GVW rating _____

Subtract total weight (#13) _____

If this answer is positive ...
you should be in great shape.

If total weight is greater than GVW,
decide what you can leave at home.
Do not exceed GVW.

campers was increased by 150,000 units last year. The industry expects to sell 165,000 more of them this year. Hopefully, most of these units will be mounted on trucks that are well suited to haul them. Some of them, unfortunately, won't be. Everything I said about trailers applies to pickup campers, only more so. Proper weight distribution is not just important in carrying a coach body on the bed of a truck, it is critical. You can be way under the gross vehicle weight (GVW) and still be overloaded . . . in the back or in the front. Ideally, the weight should be distributed between the axles. This makes for a better ride, better handling characteristics and longer life for springs and the truck in general. Overloading the rear axle, the most common mistake, causes a loss of steering control and an overload on the rear springs which eventually ends up in a breakdown.

Sometimes this is not always the

owner's fault. Some truck salesmen in their zeal to make a sale will push a wholly unsuitable truck onto the unsuspecting buyer with total disregard for the weight of the coach body that will be hauled. The same can happen in reverse with the camper salesman selling the wrong kind of unit for the truck that the vacationist already owns. Either way, it can be a mess.

The responsible truck salesman knows what camper body styles will fit best on the truck that's within your budget. Check his recommendations with those of the camper salesman. If they agree you're probably on safe ground. But don't buy yet. Make a close estimate of what your other gear weighs—that is, the gear that you'll be hauling in the camper body. Take this weight, plus the weight of the passengers, add it to the weight of the camper and you'll have GVW. If the rated GVW of your rig is less than the figure you come up with, you

must make some corrections such as 1. buy a different camper; 2. buy a different truck; 3. leave some stuff at home; 4. don't go camping. Obviously number 4 is out, but the alternatives still get pretty complicated when, collectively, the four pickup manufacturers in the country make close to 150 different styles. Coach bodies? . . . there must be at least a thousand models!

The weights of trucks and campers are known to the pound, the salesman can supply you with this information. The weight of your personal gear might be a little tricky to determine. The best way to do it is to head for the nearest trucking firm or grain elevator or feed grinding store and weigh your outfit when you're ready to travel. If your GVW rating hasn't been topped . . . head for the hills. If it has, head for home and cull out a few unnecessary items.

In case all this business about GVW sounds complicated, there's a chart with this article that you can follow. Simply fill in the blanks and do the simple addition and subtraction re-

quired. Try it with your pickup camper. You might be surprised . . . one way or the other.

It's traditional to use some badly battered cast-off tin or aluminum cookware on the annual safari, but it just isn't very practical anymore. The teflon-coated pots and pans of the space age make such stuff obsolete. They're so easy to clean that dish washing chores are cut almost in half. It's foolish to buy anything else for home or camp use except maybe for coffee. I'll stick to tradition here and make my coffee in an old porcelain-coated job that is well scorched on the bottom.

I suppose the final piece of advice for the camper shopper is to be just that . . . a shopper. The most expensive is not always the best buy, although it frequently is. Make-do or second-rate equipment will have to be replaced much sooner and that doesn't make it much of a bargain after all. For many of us the yearly camping trip is our major vacation and we want it to be fun. The right equipment can make it more so.

GAME NEWS

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Post Office Box 1567, Harrisburg, Pa. 17120



HARDY WARD, 1968 NAA champion, won World target tourney last year. Sore joints and fingers handicapped him in 1969 NAA competition.

AS TARGET archers set their sights for the 1970 National at Miami University, Oxford, Ohio, memories of one of the toughest national tournaments ever held linger on from Valley Forge. For, following on the heels of the 25th World Target Tournament and the First World Field Tournament, this combination of events brought on the top talent in the country.

It was only natural that Pennsylvania archers would take advantage of having the big one here, but the splendid performance by Pennsylvanians clearly reflected the intense interest in target archery in this state. And there will certainly be plenty of attention in seeing how Keystone shooters do at the National Archery Association shoot scheduled for August 4-7.

Miami University is only about 40 miles north of Cincinnati, so it will

Archers Set Sights for . . .

THE NATIONALS

By Keith C. Schuyler

Photos From the Author

not be a long trip for this state's shooters. It will be the third time that Oxford will host the nationals in the 86th event of its kind. Those interested in shooting can make reservations through Bob Sherman, Special Events Department, Miami University, Oxford, Ohio 45056.

Since both state spectators and shooters had a firsthand view of the 1969 National at Valley Forge from either the grandstand or through a bow-sight window, the event takes on new significance. Once again Pennsylvanians proved that target archers are both plentiful and proficient here.

Although the main noise is about the first three places in each division of the Nationals, this does not tell the full story. For example, young John Williams of Cranesville did some fantastic shooting *throughout* the year of 1969. His official place in the Valley Forge National was No. 3 position. However, his score was identical to that of the second-place winner, Edwin Eliason, at 2758. John had to settle for third based on the total num-

ber of hits. Since he had missed one of the earlier targets at the longer distances, it gave Ed the edge he needed to claim second. Yet both shooters were only 10 points off the pace set by Ray Rogers, the gold medal winner, who had claimed the World Championship at Ammersfort, Holland, in 1967.

At the age of 15, Williams set a new world record for the Single FITA Round with a score of 1242 in the try-outs for the World Championship tournament last June. He also established a new world record at 70 meters with a score of 320 in the tryouts. If this isn't enough, consider that John went into the NAA National fresh from a second place in the 25th World Championship Target Tournament only a few days before.

Another Pennsylvanian, who is making history on the female side of the ledger, is Linda Myers of York. She claimed second place in the National, runner-up to Doreen Wilbur, Iowa, who had previously been runner-up in the World National Target Tournament. Hitting her stride, Linda then went to Canada and beat out the 1969 World Target Champion, Dorothy Lidstone, British Columbia, by 88 points in the Ambassador's Cup Tournament. Linda did not compete in the world event.

Also on the ladies' side, Larue Bruce came away from the World Field Tournament with a third-place bronze medal to nail down the NAA first place in the Women's Sextuple American Round with a 3386. She shoots in the bare bow division. Audrey Stauffer, shooting against the field, came in with eleventh place in the NAA Tournament.

Young Steve Lieberman justified the

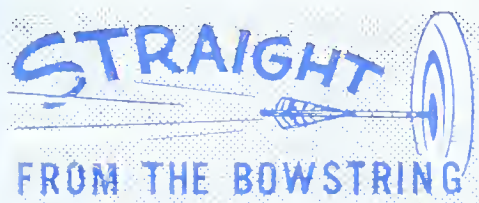
faith placed in him when he was the only American qualified to shoot in both the World Target and the World Field Tournaments. Although he came in a disappointing 22nd in the World Target event, he came back strong to gain fifth place for the United States



BEST IN THE U. S.—Ray Rogers, center, Number 1, flanked by runner-up Ed Eliason, left, and Number 3 man, Pennsylvania's Johnny Williams.

in the first World Field Championship. Steve stayed over for the Nationals, and he won the Intermediate Boys' Championship with a comfortable 2677, 52 points over his nearest competitor. In winning the boys' tourney, Steve really lit up the lights by taking the highest FITA score of the tournament. In doing so he beat out Ray Rogers, men's champion, by three points on a windy day.

As can be seen from the foregoing, not everybody shoots his best at any given time. This is best exemplified by Ray Rogers, 1967 World Champion. He fell down to seventh in the Valley Forge World Target event, but then he came on strong to win the National. Hardy Ward, the young Texas terror who beat out Johnny Williams for the World Target Championship, took a painful nosedive in the National when he turned in an unlucky 13th place



score. It was literally painful since this plucky kid was suffering from a combination of arthritis and sore fingers. He had every right to drop out of the tournament when he saw that he couldn't win, but he stuck it out to the bitter end. Hardy won the National in 1968 and was trying to make it two in a row.

In the men's team shoot, it was the Tri-Boro archers of Pennsylvania who took top score with a 2984. John Williams, Steve McCullough, Ed Williams and Marilyn Williams made up the team. (A woman may shoot on the men's team, but not vice versa.)

Although members accomplished their purpose of just coming to shoot, presence of a team from United Bowmen was possibly one of the most significant contributions to the national tournament. For, this organization, shooting in the 85th annual National Championship Tournament, was less than a month from its 141st birthday. This Philadelphia club dates back to September 3, 1828, when Titian R. Peale, then a young man of 28, initiated the club in Philadelphia. There were four charter members, and maximum membership was set at 25. This

limit is still in force.

The club periodically shoots a rather unusual round of 84 arrows at 80 yards. Unfortunately, the men's team round in the National is 96 arrows at 60 yards. Consequently, the team was pleased to settle for 12th place with the following members: Proctor Wetherill, Donelson Hoopes, Robert Lippencott and Dr. Howard Baier. Mr. Wetherill was the only one to shoot the entire tournament.

Pennsylvania's Part

Pennsylvania's part in the National Archery Association tournament is sufficient reason alone for holding this event now approaching its 86th year. However, there is much more to it as can be seen from the yo-yo positions taken by some of the nation's top tournament shooters. There is always the hope by the challengers that they will be able to come through with the winning scores. And there is always a possibility that the top titleholders among the men and women may have a bad day or two to provide an opening at the top. An example of this was in the world target event when Ray Rogers dropped back badly. Then the Oklahoma sharpshooter came on strong to take the National title with *borrowed* tackle, including a bow, sight and arrows.

Excitement engendered at Valley Forge is certain to carry through to Oxford. This is one of the great things about the National. Since it is held every year, memories of events such as listed here are not forgotten, and both participants and spectators become more aware of the archers who are most likely to provide the severest competition.

It is unfortunate that *all* the top shooters are not available. Amateur events, which produce only medals for the winners, make it a real consideration from the standpoint of traveling cost and time away from work to participate. But because most, if not all, top targeteers are members of clubs, a way can usually be found to



SECRETARY CLAYTON B. SHENK with NAA medals, foreground, and awards for crossbow tournament on the far table. NAA shoots also recognize a separate class for professionals.



WOMEN ARCHERS GATHER UP TACKLE at conclusion of 1969 event. Further competition will be at Miami University, Oxford, Ohio.

finance their trip to the National.

The National Archery Association itself dates from 1879 and is the oldest of any national archery organizations. It has been largely responsible for the major interest and growth of archery in this country. Aside from the annual tournament, the organization sponsors a junior Olympic archery program, is a member of the U. S. Olympic Association and was active in promoting archery for the 1972 Olympic games. The national group conducts eliminations for the world champion tournaments. Three mail tournaments, international, interscholastic and collegiate, are also sponsored by the NAA. It is the representative for the United States in the Federation Internationale de Tir a L'Arc, a position it has held since 1932.

Current membership is \$5 annually for an individual or \$6 for a husband and wife. Any member of the family under 18 years is eligible for an additional \$1. Junior memberships are \$3.50 without a family membership. Clubs may affiliate for \$8.50 annually. Individuals who join at the time of their club affiliation receive a reduced rate if six or more memberships are obtained. Official address for the NAA

is 2833 Lincoln Highway East, Ronks, Pa. 17572. Executive secretary is Clayton B. Shenk.

Miami U. Tournament

At the Miami U. tournament, championship events for men are a FITA round (90, 70, 50, 30 meters), a single American and a single 900. The ladies will shoot a FITA round (70, 60, 50, 30 meters), a single 900 and a single American round. There will be an auxiliary round for those men and women who do not wish to shoot the FITA round. The auxiliary rounds are four American rounds. Juniors and cadets will be provided with shorter rounds.

There will also be optional rounds such as the clout and the team shoot. And, there will be events for crossbow shooters.

Henry C. Carver of Chicago is credited with the idea of forming the first national association of archers in this country patterned on the order of the Grand National Society of England. A meeting was called on January 3, 1879, in Crawfordsville, Ind. Representatives from Indiana, Illinois, Iowa, Pennsylvania, New York and Wisconsin archery clubs collected for



THIS IS THE GOAL for many of the country's top archers—the National Archery Association's gold medal.

the historic meeting. Out of it came the National Archery Association of the United States.

Since post-Civil War articles by Maurice and Will Thompson on bow shooting had quickened the national heartbeat, it was appropriate that Maurice Thompson was named the first president. Dr. Robert P. Elmer, author and expert archer of Wayne, Pa., was named vice-president. Carver was elected secretary. The first tournament of the association was held in Chicago in August 1879.

Although it was the hunting experiences of the Thompsons which were later compiled in the now famous *Witchery of Archery* which led to formation of our national organization, it was not until 1929 that Pennsylvania made the first breakthrough to recognize archery as a hunting sport. In that year, Major Lyn Adams, superintendent of the Pennsylvania State Police, and Paul Wilcox were responsible for introducing a bill in the state legislature to legalize the bow and arrow as a sporting arm to take game birds and animals. To Wisconsin, however, falls the honor of introducing the first regular season for bow hunters alone. This season was introduced in 1934. It was dropped a year later, and the following year a bow hunting

season was resumed and has been held each year since.

Whatever the significance, it is most appropriate that Pennsylvania should have been chosen to host the first NAA United States Indoor Archery Championship Tournament this year. Again, archery history was made in the Keystone State when 263 archers were registered to shoot in the Farm Show Building at Harrisburg on April 4.

Core of the National Archery Association has been target shooting with various rounds at fixed positions. For example, the popular American Round consists of 30 arrows at 40 yards, 30 arrows at 50 yards and 30 arrows at 60 yards for a total of 90 arrows. There are a number of *championship* rounds, including the American, the York Round, the National Round, the Columbia Round, the Hereford Round, and a number of junior rounds for young people. For variety, there is the Clout Round which is shot at 180 yards at a target level with the ground. In recent years, the NAA has leaned toward the FITA Round which is measured in meters rather than yards. When this round is being shot, International Archery Federation target archery rules apply.

Other Rounds

There are numerous other rounds which are not considered championship rounds but have been designed for variety and to create interest chiefly among juveniles. In this grouping is the Wand Round, a holdover from medieval times, in which 36 arrows are released at a slot of wood two inches wide from distances of 30 yards for cadet girls to 100 yards for men. Although crossbowmen do not compete with longbowmen, they have their own division and receive awards under the auspices of the NAA.

Flight shooting is also sponsored by the NAA although this activity is held separate from the regular NAA tournaments. The field requirements as to distance can seldom be met at

the usual target tournament site, and this is held as a special event at another time and place.

In addition to the regular medals awarded at the various tournaments, there are special awards for proficiency. For example, membership in the Six Golds Club requires that an archer must shoot a perfect end in a tournament which is duly registered with the Office of the Secretary of the NAA as a "Six-Golds Shoot." Six-Gold awards are available in the York, American, Team, Metropolitan, St. George, Jersey and Potomac Rounds as well as in the Clout Round. To obtain this distinction, it is necessary to place all six arrows of an end into the gold center of the target.

Although chiefly target oriented, in recent years the NAA has adopted the FITA Field Round as an official round. Only the future will determine if this will be as popular as the National Field Archery Association Round which was standard before Pennsylvania dropped membership in the NFAA.

Brief Rundown

This is a rather brief rundown of general activities of the NAA, but they are listed here because rules are similar to those adopted by the Pennsylvania State Archery Association. In fact, the state's organization was patterned after that of the national association. This insures that those shooting in state competition will be properly oriented for the national events which are open to any NAA affiliated archer.

Although professional shooting has become popular in recent years, the vast majority of archers remain in an amateur status. Still, the NAA shoots recognize a separate class for pros.

Rules for amateur status are rather

CHAMPION INDIVIDUAL		
1	R.Rogers	27 6 8
2	E.Eliason	27 5 8
3	J.Williams	27 5 8
4	B.Metzger	27 0 7
6	A.MULLER	26 9 4
8	J.Bots	26 8 0
10	W.Grant	26 6 3
11	A.Anderson	26 5 1
12	R.BEANE	26 4 9
14	H.WARD	26 3 5
15		26 3 4

severe. To remain an amateur, the archer may not compete for cash prizes in any tournament in which trophies or awards are given worth more than \$70 for first prize, \$40 for second and \$30 for third prize. The amateur may not exhibit his skill for pay, nor may he be paid for instructing or coaching. Use of an amateur's name or picture in any advertisement is prohibited although there are no restrictions on normal news releases. For example, use of any amateur's name or picture in this column could not be construed as a violation of the amateur rules. This briefly covers the rules, and if there is ever a question in any amateur's mind he should contact the NAA and clear his status.

In this day of sometimes over-commercialization, the tradition of amateurs in the National Archery Association presents a spot in American sports as bright as the elusive gold in the center of an archery target.

The Problem Is

POLLUTION

Solve It!



STOCKMAKER RANDALL FREDERICKS, West Kittanning, and Don Lewis discuss inletting problems that affect rifle accuracy.

Just a Rifle Between Friends

By Don Lewis

Photos by Helen Lewis

THE GAPING HOLE in the creek bank was the only evidence that once a small coal mine had flourished there. Probably 40 years before, there would have been a flurry of activity at this time of day around the old mines, but on this hot August morning, only two schoolboys sat watching the hole. The years that had ensued since the mine was abandoned had all but closed the opening. Although there was plenty of coal somewhere under the hill, all the old mine produced now were foxes and woodchucks. It was one of its woodchucks that Ray and I were after.

"Never seemed to take him this long to come out before," Ray muttered. "May be that someone got him."

"Don't think so," I answered. "Remember, he's been shot at a heck of a lot. We've missed him three times this week."

"We might of missed him three times up to now, but this morning I'm going to outshoot even Ol' Dan'l Boone."

"You're pretty confident talking like that. I suppose you're bankin' strong on your uncle's rifle even though I don't think much of it."

"Listen, Uncle Ed told me he could drive tacks with this rifle, and, if he can do that, I don't think I'll miss a chuck at 40 yards."

"Okay, but you didn't think you were going to miss three days ago," I countered.

"Yeah, and you didn't think you were going to miss yesterday with that piece of gas pipe your brother calls a target rifle," Ray fired right back.

Neither of us had ever seen a good rifle. Most of the guns we got a chance to handle were of the inexpensive class and about ready for the junk pile. The rifle that Ray was using fell into this category. True, it had probably driven some tacks, but it had seen its better days. As boys, we had a lot of faith in the guns that belonged to our families.

"Hold it," Ray said suddenly. "I can see the point of his nose. He'll be out in a matter of minutes."

I watched without making a move as the wary chuck surveyed the land around his home. Little by little he exposed himself. Ray had all the target he needed. I kept my fingers crossed as Ray dug in and aimed the rifle. When the rifle cracked, the chuck paused for just a moment to take one last look and then disappeared.

"I missed him," Ray said with anger in his voice. "I just know that I had the sights right on him. And I know this rifle is true as a plumb line."

As we started home, we were really dejected. Ray and I had hunted for a long time together, and we always took turns at the shooting. There was no jealousy between us even though Ray was a better shot. I didn't rub it in about the easy miss. I know my friend was embarrassed and ashamed.

"When we get home, let's check the sights. Could be that they got bumped after Uncle Ed did all that good shooting," Ray said defensively. "I know I'm not that bad a shot."

It turned out that Ray's assumption was right. How the sights got out of alignment will never be known, but

at 40 yards the rifle shot four inches high. I suppose this was my first fling at gunsmithing. It took two hours, but I managed to get the rifle's sights where they should be. Later that evening, I cut the chuck down with a nice head shot.



NEW COMMERCIAL action was basis for long-range chuck rifle. Note that it has an adjustable trigger and three guard screws to bind stock and metal together.

"I guess your uncle's rifle isn't as bad as I thought," I told Ray. "You would have gotten the chuck this morning if the sights had been fixed."

"I know," Ray said sarcastically. "Every rifle we use has something wrong with it. Someday, I'm gonna own a real rifle even if I have to have it built."

I don't suppose that even Ray realized what he was saying when he mentioned that he would have a real rifle even if he had to have it custom built. Back then, I had never heard of a special built rifle. We had several gunsmiths in our community, but most of their work was straight repair jobs. Neither of us would have believed in those years when \$50 was a month's income that the rifle Ray would eventually build would cost 10 times that much.

The old hand of time has a sneaky way of dipping 30 years out of a man's life and hiding them, and it's hard for me to believe that that's how long it was since Ray made that remark until



he told me he was going all out for a top-notch chuck rifle. He made it clear to me that he intended to leave no stone unturned in his search for the best components. His problem at the moment was the caliber, barrel size, and stock. Although Ray and I have been friends since 1927, we just can't seem to agree on most things, and this chuck rifle was no exception. I was all for going for a bull barrel, single shot, thumbholer stock, and a .224" caliber. This might seem to take it out of the chuck rifle class, but a 15-pound rifle can be carried on the short carries the chuck hunter makes, and its biggest asset would be the way it performed from the benchrest. To me, practice from the benchrest is just as much fun as hunting.

No Set of Wheels

But Ray wanted no part of a rifle such as I suggested, and he told me sarcastically that he didn't intend to buy a set of wheels to get the bloomin' thing around. His idea of the rifle he wanted was one that could be used mainly for hunting. He didn't entertain any ideas about doing benchrest shooting; he wanted a rifle strictly for hunting. Although all our arguments were friendly and never endangered our long friendship, I stuck to my philosophy about the ideal chuck rifle. I explained the safety factor of the single shot plus the fact that the chuck hunter has no need to have a magazine full of shells, and I tried to overcome the weight problem by reminding him that he seldom carried a rifle over a quarter of a mile on any chuck hunt. All the things that I could think of to back my argument were to no avail; he was just as adamant as I was. He added rather pointedly one night that all I wanted him to build was a benchrest outfit to my specifications so that I could wear it out on my bench . . . a thought that never entered my mind!

It was finally settled; a hunting type rifle it would be. This rifle was strictly for field use, and it would see the

benchrest only when it needed zeroing in. Although I lost, I was relieved that a decision had been reached. I hoped that my longtime friend would get the rifle he wanted so much.

The only part I was to play from here on out was the scope mounting trigger work, form the cases, and do the actual range testing. I'll admit that Ray tried very hard to buy the best. Starting with a high-grade target barrel in the 25-06 caliber proved that he was on the right track. He had the barrel fitted to a new action, and had Randall Fredericks of West Kittanning bed it in a Royal Arms Laminated Thumbholer stock. There was every indication that a really fine rifle was in the making. To give the shooter every possible chance to do his stuff, Ray picked up a factory rebuilt Bausch & Lomb 6-24x scope. When the rifle came to me, I felt sure we had a one-holer if we could hold it steady.

I started the range tests with a mild load of 56 grains of 4831 and an 87-grain Speer bullet. I didn't want a hot load. As I got the rifle on the bench and all my data sheets assembled, I could hardly wait to stick the rifle out the shooting window.

My joy was short-lived! The first five shots wouldn't have stayed in the bottom of a milk bottle. Two more strings of five didn't improve the group size very much. In desperation, I shot the last five shells, but there was no semblance of a tight group. I changed the powder to 4350, and switched to a 100-grain Sierra spitzer backed by 51 grains of powder. Since it was getting close to midnight and I didn't feel up to shooting another string I left the bench satisfied that the next night would prove a different story. The one thing that worried me slightly was that I had had five misfires.

It could have been that I was more relaxed the next evening when I averaged about 1½" for the four groups I fired. Still this was not what a rifle such as this should do. I was aware that I had military brass and regular



JOHN COLEMAN AND HELEN LEWIS collaborate on a long woodchuck shot. Scope is a Bausch & Lomb 6-24x variable.

hunting bullets, and I couldn't expect to get the most out of the rifle. As I was concocting another batch of 20, several shooting friends visited me. I invited them to look through the spotting scope, explaining all the while why this beautiful rifle wouldn't shoot. While in the midst of some highly technical explanations, my wife stopped by and invited herself to shoot the new rifle. We stood by as she literally tossed them in and out of the action without so much as taking a peek at the target through the spotting scope until she fired the last round. She then studied the target for several seconds, removed her ear plugs and shooting glasses and informed me that it was a dandy rifle.

I've been blessed with a natural ability to put my foot in my mouth, and I promptly asked her who she was trying to fool. When I looked through the spotting scope, I wished that I had looked before I spoke; there was just one black splotch on the target. Naturally, all my visitors had to take a look, and I was subjected to some rather pointed remarks. The group Helen fired measured ¾".

I might point out that this was the

best group this rifle fired for over two months. Ray seemed plagued with problems. He came to my place and tested various loads and powder charges from my benchrest. He became so engrossed in his quest to overcome the problems of misfires, a minor bedding defect, and an action problem, he decided to buy his own loading equipment and build a benchrest. And again, he left no stone unturned.

By now, the worst problem was the misfires. There seemed to be no answer. The new action he used has an adjustable firing pin, and the adjustments made seemed to help some, but the misfiring went on. Ray was disgusted.

Even with all the gremlins that bugged him, Ray was shooting some darn nice groups from his bench behind his garage. They weren't one-holers, but a lot of them stayed well under a minute of angle. I don't think this is too bad when all types of brass, bullets, and powder charges are being used. Ray wanted ½" groups, but they don't come consistently in Ray's type of rifle.

Although I never did anything exceptional with this rifle, Helen seemed

Give

GAME NEWS

To a Friend . . .

to be able to do no wrong. For instance, after John Coleman assured her that nobody could hit the chuck he was watching 475 yards away, she made him eat his words.

I still have a lot of hope for the new version. Ray returned the action for the necessary corrections, and he waits in apprehension for this summer's shooting. I feel that a lot of our shooting problems are psychological. The misfires bothered Ray to the point of frustration. Also, he lacked confidence in the rifle even though it would shoot inch groups most of the time—a fact which points out to me that there can't be much of anything wrong with this outfit.

Ray is busily cooking up several hundred rounds of special stuff to shoot before chuck season. It seems he spends more and more time shooting

for groups. And just to show you what makes Ray and me lifelong buddies, he more or less hopped all over me not long ago for not insisting that he build a rifle designed for the benchrest. During the process of shooting close to 700 rounds testing his rifle, Ray discovered the advantages of the bench. Also, he developed a real interest in group shooting. Trying to put all the bullets into one hole kept him more at the bench. To overcome the elements, Ray installed his benchrest on a slab of concrete and put a roof over it. He built a neat loading bench in his basement and installed the necessary loading equipment. The loads he turns out are mostly for tests from the bench. He certainly has become an enthusiastic bench shooter.

It seems that I should have explained all this to him. As he said if I would have just insisted a little, he would have had a single shot, bull barrel, benchrest. Oh, well, that's life. How does that old saying go? "Sticks and stones may break my bones. . . ." I guess that's about all a fellow can expect when he builds a rifle just between friends. . . .

Looking Backward . . .

"Ancient Giants—Some men in digging a cellar for Gen. McKean came to a rock-inclosed tomb, nine feet below the surface and over nine feet long by two and a half wide. The soft bones of the skeleton, as it lay, were carefully measured by Joseph Williams, of Troy, and it was eight feet and two inches in length. There were two of those graves within the space of the cellar, and one was overgrown by a pine tree over three feet in diameter. [Burlington Twp.]

"William McKean made a statement that, in 1841, in cutting down a noted old stump of great size, he found unmistakable marks of some sharp, ax-like instrument near the heart. It was carefully split and examined, and there could be no mistake of the nature of the cuts. He was assisted in the examination by the Rev. Moses Ingalls; they counted the rings and came to the conclusion that the marks had been made over four hundred years ago!" [Burlington Twp.]

H. C. Bradsby, "History of Bradford County, Pennsylvania," p. 441, S. B. Nelson & Co., Chicago, 1891.

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DON'T BRING THEM HOME!



*Sure, You Like Fawns-But Their Mother
Loves Them. So Leave 'Em in the Woods.*

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IN THIS ISSUE

FEATURES

	Page
The First 75 Years	1
Division of Administration	4
By Daniel H. Fackler	
Division of Research	7
By Harvey A. Roberts	
Division of Land Management	14
By Samuel J. Kern	
Office of the Comptroller	24
By John M. Smith	
Division of Law Enforcement	25
By Paul L. Failor	
Executive Directors	32
Division of Minerals	45
By John B. Sedam	
Division of Propagation	47
By Ralph E. Britt	
Division of Information and Education	56
By Roy W. Trexler	
Service of Commissioners	64

COVER PAINTING BY NED SMITH

For this issue of GAME NEWS, which commemorates the 75th anniversary of the Pennsylvania Game Commission, no other cover subject seemed as fitting as the ruffed grouse. The grouse is our state bird, of course, but this was only one reason for the choice. Even more important was the niche that Ol' Ruff holds in Keystone gunners' affections. He's not our most numerous game bird, nor the biggest, toughest or fastest. Still, there's no doubt but that he's our most admired one . . . really our best loved. There's something regal in the way he patrols his forest domain, proud, dignified, reserved. No one can glimpse him on a woodland trail or drumming log without experiencing some immediate reaction—a sudden pause, a catch in breath, a jump in heartbeat. No one is unaffected by the grouse, for he is a great game bird and we feel sure you'll agree that this portrayal by Ned Smith is a great painting.

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This Issue of GAME NEWS Commemorates the 75th Anniversary of the Pennsylvania Game Commission. It Seemed a Fitting Occasion to Give Our Readers as Complete a Historical Background on the Organization as Could Be Assembled Within Our Space Limitations. We Hope That These Articles and the Accompanying Photographs, Many of the Latter Assembled From Our Historical Files, Will Prove of Interest Both Now and in the Future. . . .

The First 75 Years

"IT IS THE duty (of the Pennsylvania Game Commission) to protect, propagate, manage, and preserve the game, furbearing animals, and protected birds of the state, and to enforce, by proper action and proceedings, the laws of this Commonwealth relating thereto."

These words, from Section 210 of The Game Law, have been the basis for the major part of the game conservation program in Pennsylvania for the past 75 years, yet they give no inkling of the vastness of the movement today or what has gone before, let alone what might be in the future.

Pennsylvania can offer impressive evidence to show that it is one of the nation's finest hunting states. Although we are blessed both geographically and topographically, it is not by accident that the opportunities for sportsmen here exceed those found in many other places.

There have always been conservationists, but game management is a relatively new area of endeavor. Even when passenger pigeons were disappearing and wolves, buffaloes, etc., were being slaughtered as if the supply was inexhaustible, few voices were raised in protest. After all, hunting was an "inalienable right," and who was to tell another what he could or couldn't do?

The hunting and trapping movement was as strong in Penn's Woods as anywhere, but as one species after another began to fade, it finally dawned on Pennsylvanians that if game resources weren't wisely used,

there soon wouldn't be any. Laws began to appear both locally and statewide, governing the taking and use of game, and by 1895 it became necessary to create a state agency to take charge of the program.

More laws quickly found their way onto the books, and seasons and bag limits soon were established. The early days of the agency were primarily devoted to enforcement of rules and regulations. With the creation of a paid resident license (\$1 fee) in 1913, hunting and trapping became a privilege, rather than a right. It also provided a firm basis from which the game agency could operate independently, rather than depending on appropriations of tax monies. The laws concerning wildlife were among the best for those times, and vigorous enforcement and the strong financial structure gave Pennsylvania a sound foundation for the present organization.

State Game Lands

Shortly, the agency became involved in the trapping, transfer and propagation of wildlife, and populations of many game and furbearing species began to rise. About this time, farsighted Game Commissioners launched a project which today is the envy of every wildlife agency in the nation—the acquisition of State Game Lands which are set aside for public hunting and trapping.

A new era was ushered in some years later with the establishment of a training school for Game Protectors,



FROM THE BEGINNING, the Game Commission has tried to improve Pennsylvania's hunting. This photo from the early 1930s gives some idea of its success

the first of its kind anywhere. Prior to this, about the only training given a field officer was the "advice and assistance" rendered by a fellow officer or "short courses" on various phases of Game Commission activities.

Research into the ways of wildlife and discovery of the importance of habitat to wildlife populations led to marked changes in programs of the agency—changes which produced results more desirable than those from previous practices.

For example, the white-tailed deer, which later became the state's official animal, was seldom seen around the turn of the century, but the herd had reached about a million animals in the late 1930s, creating problems which could be solved only by drastic harvests. Wild turkeys, which earlier had numbered only a few flocks in a small area of southcentral Pennsylvania, to-

day are more numerous in this state than any other east of the Mississippi. Beavers, nonexistent in Pennsylvania half a century ago, in some areas to day are so numerous that they create real problems.

New programs were inaugurated to make more land available for public hunting. One, launched in the mid 1930s, was designed to keep farm open to sportsmen, and another, initiated several decades later, made other private holdings available to outdoorsmen. Together with State Game Lands, these programs now total more than 5,000,000 acres, all open for public hunting and trapping.

With more emphasis being placed on habitat, efforts to manage both private and publicly-owned acreage for the production of wildlife have been stepped up to the point where these activities now account for almost

half of all Game Commission expenditures.

While knowledge of wildlife, hunting and trapping have been expanded by our own as well as other state conservation agencies and private organizations, some previously-held and widely-accepted notions have been disproved by intensive investigations. And changes in conditions have taken place and will continue in the future, some induced by man, others by nature. With these must come changes in game management practices.

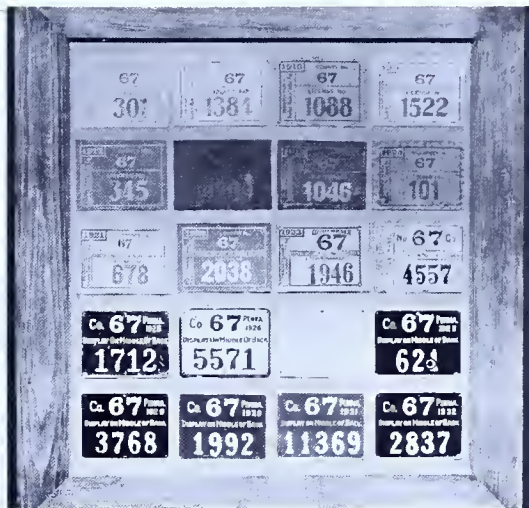
Many Hunters

Today Pennsylvania has more hunters than any other state. There have been no alterations in the geographic area of the state for many years, and none can be anticipated. In addition, with an ever-increasing human population and shifts in land usage, the habitat capable of supporting wildlife populations is constantly shrinking. Unless the quality of that habitat can be upgraded, it is inevitable that wildlife populations will decline.

Less than four percent of the land area in Pennsylvania is owned by the Game Commission, and only that much can be directly controlled and managed for the production of wildlife. By far, most of the state is privately owned, and if landowners use their property in such a way that wildlife cannot be produced, hunting could almost become a thing of the past. Fortunately, most of Pennsylvania's acreage is held by those who strongly favor continuation of recreational hunting, so the sport is in no immediate danger.

Those involved in wildlife resource management have a tremendous job of education ahead of them. The Game Commission has not neglected this activity in the past, but as society becomes more sophisticated, an educational and public relations program will become even more important in the future.

The Game Commission cannot guarantee 1,000,000-plus hunters "X" num-



PENNSYLVANIA'S FIRST resident hunting license was sold in 1913, price \$1. Shown here are examples of the licenses from 1913 through 1932.

ber of pieces of game per day, week or year. The agency can only provide sportsmen with maximum opportunities to enjoy recreational hunting.

When times and conditions change, the agency's programs will have to change, as will hunters and hunting. The bucks-only law of 1915 was necessary for that time and those conditions, but it will not work in 1970. Active winter feeding programs, thought to be necessary prior to 1940, are now known to be largely wasteful and inefficient. The bobcat, which carried a bounty on its head just 33 years ago, is now a protected game animal. The bounty system itself, considered to be the "right" approach for years, was shown to be ineffective, wasteful, and finally was discarded.

Management will have to be the key to future operations. Protection, propagation, preservation and enforcement will always be important, but as a part of, rather than distinct from, the concept of management. We will have to know more about wildlife, more about people, and more about the environment, and combine this knowledge with the best practices to provide optimum recreational opportunities for the maximum number of persons.



THIS 1915 PHOTO, IN ROOM 341 of the Capitol, shows Dr. Joseph Kalbfus, Secretary; Wilbur M. Cramer, stenographer; Granville E. Wood, chief clerk; Charles E. Brewster, special aide to Dr. Kalbfus; and Seth Gordon, stenographer-clerk.

Division of Administration

By Daniel H. Fackler, Chief

THE Division of Administration, in its present organizational structure and status, dates from October 10, 1955. Two major bureaus, the Bureau of Field Operations and the Bureau of Administration, were abolished and the divisional structure was begun at that time.

The duties and responsibilities of the Division had an earlier beginning, however. Functions of personnel, purchasing and other administrative duties had essential roles from the Game Commission's beginning, although under different identification.

In view of the present emphasis on training in state government, it is interesting to note the early recognition the Game Commission placed on this function. Written examinations for the position of Game Protector were first used in 1924 to select the most capable men. Prior to this, in August of 1920, the first training conference for field

men was conducted in Harrisburg. This was the beginning of formal training sessions conducted from time to time. The Pennsylvania Game Commission Training School, now called the Ross Leffler School of Conservation, was established in 1936. Thirty-five students were enrolled in the first class of Game Protectors, believed to be the first group of its kind in the world. Training began in July of that year and finished in February of 1937. Twenty-seven men were graduated.

The importance of having better trained officers represent the Game Commission had this early beginning. Selection and training of Game Protectors followed this policy, with some minor variations as they were believed necessary to meet the changing demands of the work. In 1963, this basic field position was included in the Classified Service and the Civil Service. The Commission began performing the re-

recruitment role beginning with the twelfth class. The philosophy and techniques of recruitment and selection have not experienced any radical changes with this change of jurisdiction. This reflects credit on the Commission's objectivity in this important role.

In-Service Training

Recently, even greater emphasis has been given to in-service training. Employees are encouraged to take advantage of job-related evening courses which are within driving distance of their headquarters. Training for promotion or improved work efficiency in the employee's present position are both important considerations in building better organization. Wherever possible, it is felt, an officer should receive additional training before promotion. Psychology and sociology courses are especially helpful to Game Protectors whose work is becoming more and more people-related as opposed to the traditional police officer or refuge keeper image. Imminent social changes will continue to emphasize the need for training in human relations as well as new techniques in wildlife management.

Benefits

Personnel administration reflects another significant responsibility in recent years. Employee benefits include many considerations unthought of ten years ago. Human rights, medical/hospital benefits, group life insurance and more liberal sick and vacation benefits are constantly under consideration by personnel people and the legislature. State employees are asking for equal status and the benefits that federal employees and those in private industry are enjoying. Although Game Commission employees are grateful for these personnel recognitions, a deeper ingrained motivation has been manifest in employee attraction during Game Commission history and this discipline is still evident.

In the entire recruitment, selection

and training processes, our primary objective is to have the Game Commission and its programs represented in the best possible light in every district of the Commonwealth. This philosophy must also be included in the selection and training of Deputy Game Protectors. In a small community, a deputy may be the only personal contact an interested individual normally has with the Game Commission, and the conduct and image this local representative portrays is the way the Commission is perceived and judged. Consequently, an important responsibility falls on the District Game Protector who trains his deputies to communicate effectively and assist in disseminating factual information to every level. The public relations aspect of this work is very important in creating better understanding and resolving problems by the use of facts and not opinions and biased judgments.

Although the number of licenses sold and the amount of wildlife harvested are not the only criteria in evaluating progress or regression, the use of these types of statistics can be very helpful in future planning. Considering a budget as "a financial plan



PGC PERSONNEL sorting deer harvest reports following the 1938 season. That year 171,662 does were taken in the antlerless deer-only season. This was our largest doe harvest.



THIS PHOTO, taken in 1930, shows the building which after remodeling became the Game Commission's training school on SGL 54 near Brockway.

for attaining an objective," the 1897 appropriation of \$800 could do little more than pay postage and express charges. In 1901, the first hunting license law was enacted for nonresidents at a fee of \$10 and the General Assembly increased the appropriation for the biennium to \$3000, which sum was gradually increased until the Hunter's License Law was passed in 1913. The cost of this first license was \$1. It was not increased until 1923 when it went to \$1.25. The first special Doe License Law was passed in 1923 at a \$5 fee. The nonresident license fee also was increased from \$10 to \$15 that year. In 1925, the cost of an antlerless deer license was reduced to \$2. The resident license fee was increased to \$2 in 1927. This is especially significant because 75 cents of this fee was earmarked for land purchase—the beginning of a program which is now considered one of the most creditable examples of foresight and planning.

In 1949 the resident license fee was increased to \$3.15, the nonresident license fee to \$20 and a nonresident trapper's license of \$25 was passed. The present license fee structure which includes a junior hunting license (\$3.20), adult resident (17 years and old, \$5.20) and nonresident (\$25.35) was enacted in 1963.

The responsibility for the issuance of hunting licenses was given to the Department of Revenue in 1929. Sales of resident and nonresident licenses at intervals since 1915 are listed below

to indicate the trend in sales for the past 55 years. The increase in nonresident sales is especially significant since the appraisal of this group is generally considered more objective than that of residents. To borrow a popular advertising phrase, "We must be doing something right."

	Resident	Non-resident*	Total
1915	262,355	532	262,887
1919	401,130	1,128	402,258
1924	501,572	2,558	504,130
1929	505,103	4,823	509,926
1934	568,666	6,024	574,690
1939	653,852	9,049	662,901
1944	593,917	13,983	607,900
1949	815,915	24,032	839,947
1954	863,286	30,827	900,113
1959	943,866	44,937	988,803
1964	868,972	47,380	916,352
1968	1,006,344	90,004	1,096,348

*Includes alien licenses.

It is also interesting to compare the variety of hunting Pennsylvania has to offer for the price of one license when other states have special big game stamps, turkey stamps, etc. Another factor which must receive constant consideration by Pennsylvania wildlife administrators is the increasing number of hunters, both resident and nonresident.

Currently, there is a widespread demand for environmental improvement as outlined by President Nixon in his 1970 address. People are daily becoming more aware of the pollution problems facing us. In an overall sense, this has become the challenge for the decade, the one we must conquer if we are to survive at all. The involvement of our total population hopefully will give conservation-dedicated people and organizations, who have been working alone for so many years, a big lift in solving the problems of environment. Our entire social structure can be enriched by this approach, and wildlife will enjoy certain benefits as a natural by-product. Obviously, the future holds a big challenge for conservation administration. We believe it can be met.

Division of Research

By Harvey A. Roberts, Chief

FROM ITS INCEPTION in 1895, when the Board of Game Commissioners was created, Pennsylvania's game management programs evolved in about the following sequence: (1) rules and regulations governing hunting, (2) bounties and predator control, (3) game farming for restocking and introduction of exotics, (4) land purchases for public hunting areas and refuges, (5) environmental controls or habitat manipulation for production of game food and cover, and (6) wildlife research.

As may be noted, the initial steps in the development of a wildlife management program were characterized by restrictions on when, what and how one might hunt. Essentially this approach was focused on the protection and preservation of dwindling native game populations rather than creation or improvement of hunting.

With the realization that restrictive measures alone did not completely reverse the downward trend in wildlife numbers, the Commission turned to artificial propagation and habitat management. At this point in time the philosophy of wildlife conservation began to change and take on new meaning. Instead of considering wildlife as something that must eventually disappear, the concept of renewability and sustained annual production entered the picture. Along with this growing awareness came the need to know something of the nature of the wild animals man was attempting to manage. This, in turn, set the stage for scientific inquiry and the slow evolution birth of a new breed of professionally trained individuals—the wildlife biologists.

More specifically, the Bureau of Research and Information was created in 1924, and one of its first part-time assignments was to determine food



RESEARCH BIOLOGIST Dale Sheffer and **DGP** Barry Jones mark cottontail for identification during a program of trapping and transferring native rabbits.

preferences of the goshawk and snowy owl. Over the next several years the scope of this particular investigation was expanded to include a variety of hawks and owls. Due to the number of avian predators probated for bounty and their availability as study material, food habits work was a logical first step. The spring of 1924 also marked the first large-scale banding program designed to evaluate stocking prac-

tices. Five thousand Mexican bobwhite quail and 4,000 ring-necked pheasants were banded and released.

The unusually severe winter of 1927-1928 and attendant winter mortality in the deer herd triggered an investigation of range conditions in certain northern tier counties. Game Commission personnel, led by a representative of the U. S. Biological Survey (forerunner of the U. S. Fish and Wildlife Service), made a reconnaissance survey of problem areas and concluded that much of the deer range was severely overbrowsed. Frequent antlerless deer seasons were recommended as a remedial measure.

A study involving cottontail rabbit-tularemia relationships was also conducted during this period. This bacterial disease that affects many species of animals, including man, was not found in the numerous animals examined.

Beginning in 1929, the overall research effort gained some impetus, largely due to the growing concern over the deer problem. In March of that year, representatives from the Game Commission, Pennsylvania Department of Animal Industry, Penn-

sylvania Department of Forests and Waters, U. S. Biological Survey, Pennsylvania State College, and Bucknell University met in Harrisburg and formed a committee to "devise and direct a series of deer experiments under strict scientific test conditions. Bucknell University undertook a study of nose bot larvae (*Cephenemyia prohifer*) and its relationship to winter deer mortality, while nutritional tests of laurel and rhododendron as deer food were inaugurated at Pennsylvania State College. It was found that the nose bots were not directly involved in the winter loss of deer and exclusive diets of laurel and rhododendron for a six-week period did not produce death in the test animals.

Deer Parasite

Additional cooperative studies, also begun in 1929, focused on artificial propagation of ruffed grouse and diseases of deer. As a result of the work with deer, a stomach worm (*Ostertagia* spp.) was first reported as a parasite of this big game species.

Of 11,207 Mexican bobwhites purchased in 1930, 5,000 were banded to assess their contribution to the stocking program. Twelve bands were recovered during the ensuing four months. Also a "deer experiment park" was established that summer at Pine Grove Furnace, Cumberland County for the purpose of studying the breeding biology of this species. The long held belief that adult female deer ovulated but once during each breeding season was disproved by the work with these captive animals. Winter field examinations of adult female deer in overbrowsed ranges showed that pregnancy and reproductive rates to be alarmingly low.

The first survey to determine the results of early Hungarian partridge releases and to pinpoint potential unoccupied habitat for additional liberalizations was also conducted in 1930.

During the period of 1931-1932, it became obvious that the Commission could not meet its rabbit stocking



SEVERAL BIOLOGISTS are working full time on white-tailed deer studies, including research on nutrition, disease and parasites, habitat and population dynamics.

quotas solely from supplies available in Midwestern states. So as to ultimately develop another source of rabbits, artificial propagation experiments were begun at the Fisher State Game Farm, Montgomery County, and later expanded to include similar studies at the Jordan State Game Farm, Lawrence County; Game Refuge Number 3, Huntingdon County; and the Loysock Game Farm, Lycoming County.

Included in a variety of additional investigations started during this two-year period were: a search for improved artificial incubation and brooding techniques; life-history study of the least weasel; food habits studies of song and insectivorous birds; ring-necked pheasant predation on nesting rabbits; the incidence of tularemia in Pennsylvania cottontails; and whether the use of red clover by the Game Commission produced pseudohemophilia in domestic livestock.

In addition to work begun earlier, research personnel collaborated with the U. S. Bureau of Entomology and Biological Survey in conducting a 1933-1934 disease and parasite study of Pennsylvania beavers; moreover, a cooperative effort was started at the University of Pennsylvania to develop techniques for distinguishing venison from other wild and domestic meats. This study had obvious law enforcement implications.

Title Changed

Due to increased need for information concerning ecological problems, stocking practices and general game management, the Commission decided that a more appropriate title be given to this work. Therefore, in 1936, the Bureau of Research and Information became the Division of Research and Distribution. Given new status and direction, this Division, over the next several years, embarked on a wide range of field investigations. Included in the overall research effort were: a detailed study of the bounty system as a method for controlling predator populations; investigations into the me-



LOCKED DEER ANTLERS are often discussed, rarely seen. Bob Latimer, now retired, shows two Sullivan County white-tails found in this condition in 1938.

chanics of winter deer losses and aberrant sex ratios of fawns produced in overbrowsed range; an analysis of the Commission's rabbit management activities which, incidentally, led to the activation of large-scale trapping and transfer programs and the creation of rabbit propagation areas. Another study of note was the climoactometer work begun at the Loyalsock Research Station.

A highly important development for game research was the passage in 1937 of the Pittman-Robertson Act by the Congress. This act, otherwise known as the "Federal Aid to States in Wildlife Restoration Act," provided for a 10 percent (later increased to 11 percent) federal excise tax on sporting arms and ammunition. The money obtained from this tax was (and still is) apportioned among the game departments in the various states on a 75/25 percent matching basis for use in research and habitat development.

By 1939, money from this source became available for Pennsylvania's research effort and was initially channeled into studies of the striped skunk and red and gray foxes, with special emphasis on economic importance and food habits. Deer breeding experiments also were reactivated at the



ANTLER DEVELOPMENT over the 10-year lifespan of a whitetailed buck in a study program is shown by its antlers. They were shed in January each year.

newly created Loyalsock Experiment Station near Williamsport. In that same year the title covering wildlife investigations was shortened to the Division of Research and the work placed under the immediate jurisdiction of the Bureau of Field Operations.

Projects financed wholly with Game Fund monies included a tagging and banding study that included some 90,000 game birds and mammals. Further analysis of avian predator diets was carried on to provide a clearer picture of year-round food consumption; and the physiologies of certain small game species were studied, utilizing the newly constructed climoactometer (climate chamber). Mechanical and chemical means for capturing game birds and mammals also were explored.

In another of the frequent moves to streamline and improve the organizational structure of the Game Commission, the Divisions of Research and Propagation were combined into one unit in March of 1940.

From 1941 into early 1942, a number of continuing studies were pur-

sued. Included among these investigations was work with furbearers deer, cottontail rabbits and ring-necked pheasants. In the case of the latter species, a method for determining the age of day-old pheasant chick was developed and utilized as a propagation technique. The results of fasting and "wetting" experiments in the climoactometer eventually served a justification for the Commission's winter feeding policy.

Activities Cut By War

As personnel was lost to the armed forces during World War II, research activities were of necessity drastically curtailed. However, during the period 1942-1944 several new projects were inaugurated. A detailed study of red and gray foxes in southeastern Pennsylvania was completed and an evaluation of the bobwhite quail begun. In early 1944, 2000 wild-trapped South Dakota ringnecks were liberated in northern tier counties in a continuing attempt to expand the pheasant range in Pennsylvania.

Between 1945 and 1946, the Division of Propagation and Research became the Division of Research and Planning and its area of immediate responsibility shifted from the Bureau of Field Operations to the Administrative Bureau. While the change did not alter the Division's primary research mission, it did provide for more direct participation in wildlife management matters. This post-World War I period was characterized by a gradual upswing in research activity which included a study of rabbit repellent and an evaluation of bobwhite quail stocking in the southcentral part of the state. The first in a series of two year regional mammal surveys was begun in northwestern Pennsylvania. These surveys were designed to provide insight into the distribution, abundance, ecological inter-relationships, economic importance, etc., of all wild mammals found in the Commonwealth.

With the termination of the quail

work in 1947, the mammal survey was started in southwestern Pennsylvania. A year later the northcentral and southcentral portions of the state were brought under the mammal study. Projects dealing with rabbit habitat preferences and management techniques were simultaneously kicked off in the two northern corners of the state. These were closely followed by a statewide waterfowl survey and an analysis of bulldozing as a technique for producing wildlife food and cover in pole-stage forests. As the decade drew to a close, the cottontail investigation was expanded to include an additional study area and mammal surveys were begun in the eastern third of the Commonwealth.

Successful Projects

Included in the projects brought to successful conclusions during the first half of the 1950s were: a wood duck nesting box study; an updated review of predator control methods and bounty systems; certain phases of the cottontail rabbit investigations; statewide mammal surveys; bulldozer investigations; and an inventory of potential sites for waterfowl habitat development. Additionally, this period marked the start of field studies dealing with: the white-tailed deer; trapping and transfer of native rabbits; woodcock; wild turkey; experimental habitat management on certain utility rights-of-way and the Conemaugh Flood Control Reservoir; and an evaluation of certain land management practices.

Most of today's research studies had their origin in the mid to late 1950s. Therefore, the present tense is used in the following brief description of the most important projects:

With approximately 650,000 deer hunters in Pennsylvania, expenditures by this group for transportation, meals, lodging, equipment, etc., have a beneficial impact on the economy of the state. As part of the white-tailed deer study it has been found that this resource annually provides over three

million man days of recreation. In this light, three biologists have been working full time on specific investigations dealing with nutrition, food preferences, disease and parasites, habitat manipulation and conflicts with other land uses, and population dynamics.

Population data, as related to the size and fluctuations in the deer herd, have been used as the basis for allocating antlerless deer licenses. The gratifying results of this management technique are reflected in the harvest totals of the past decade. Despite a human population that ranks third highest in the nation, Pennsylvania continues to rank among the top five states in the production and harvest of deer.

Of all the huntable small game species in Pennsylvania, none is more eagerly sought after than the cottontail rabbit. In order to meet this demand, additional insight into population fluctuations, movements, behavior, disease and the effects of hunter harvest in different habitat types is needed. A relatively new technique involving radio-telemetry equipment has been employed to study seasonal movement and behavior.

Predicated on a detailed analysis of various habitat types throughout the

DGP JACK HAVERSTICK places corn to entice pheasants into trap during a study of ringnecks during the 1930s. Work with this species is still being carried on.





WATERFOWL TOO HAVE BEEN STUDIED. Here, as Chuck Strohm places band on duck's leg, Carl Warren records band number, plus species, sex and age of duck. Photo taken in early days at Pymatuning.

state, the contribution of ring-necked pheasants produced in the wild and at game farms has been clearly defined. Major modifications in the management and stocking programs have resulted from the study of this species.

Experimentation continues with the Korean ringneck in hopes of finding a species adaptable to nontypical pheasant range.

Turkey Investigations

Wild turkey investigations during the past 19 years have centered in large part on food requirements, range mapping and the determination of population densities and composition. Findings concerning numbers, distribution and age composition led to Pennsylvania's first spring season in 1968. The estimated harvests of from 1500 to 2000 surplus adult gobblers during this new season afford the sportsmen many additional hours of recreation and lead to better utilization of birds that were heretofore wasted.

The questions of winter survival and

the need for artificial feeding, both of major concern to the public, and the subject of an extensive turkey management program by the Game Commission have been brought under intensive study.

Randomly distributed questionnaires were used on a broad scale for the first time in 1964 to measure the hunter harvest of small game species. This method of sampling hunter success and projecting harvest totals is comparable to those used by industry and business. It provides economically and statistically sound information which is presently more reliable than data gained through other available means.

As part of the Evaluation of Habitat Development for Wildlife, new varieties of wildlife food and cover producing shrubs are made available to the Research Division by the U. S. Soil Conservation Service. They are being field tested under a variety of soil and climatic conditions, and those species showing greatest promise have been selected for propagation at the Com-

mission's nursery and eventual use in the land management program.

In addition to the major projects discussed previously, many smaller field problems have been worked on independently or cooperatively with personnel from the Pennsylvania State University, Philadelphia Zoo, Pennsylvania Department of Forests and Waters and the U. S. Forest Service. These included waterfowl, woodcock and dove banding; nutritional analysis of deer and turkey foods; and routine pathological examinations of birds and mammals. The biological staff also participates heavily in public relations and information work.

Chief Function

In retrospect, the Division's chief function has been one of gathering and interpreting information concerning many of Pennsylvania's wildlife species and the habitat that supports them. When applicable, these findings have taken the form of recommendations to the Commission for inclusion in game management policies and programs.

Not all research on game problems has produced immediate or positive results. Incomplete or negative results, however, may ultimately be of great value. It is possible that what is regarded as a negative result today may actually have application in years to come, or that individual segments of several long-term studies may eventually fit together like pieces of a jigsaw puzzle.

It seems fitting at this point to recount some of the concepts now accepted by the Commission that were arrived at through research and administrative evaluation. This list by no means encompasses all major developments in the constant move toward better wildlife conservation in the Commonwealth, but it contains some that have been of major benefit to the resource and the recreation it supports.

1. The bounty system, as a method for controlling predator populations,

is expensive and totally ineffective as a wildlife management tool.

2. Small game cannot be stockpiled from year to year. Therefore, extended hunting periods for ruffed grouse, cottontail rabbits and squirrels afford additional recreation without harm to the resource.

3. The key to cottontail rabbit abundance lies in habitat development rather than in frequent and indiscriminate stocking.

4. Fuller utilization of the wild turkey populations can be realized through spring gobbler seasons.

5. Releases of game farm reared birds do not materially revise the state harvest of pheasants or turkeys. They do, however, contribute to the recreation base when made at specific times and under certain prescribed conditions.

6. Habitat can be created and maintained for the benefit of nesting and migrant woodcock.

7. Sustained annual harvests of predetermined numbers of antlerless deer constitute the best method for managing Pennsylvania's white-tailed deer herd.

8. Under certain cultural practices, specific shrub and herbaceous planting can be employed to make rights-of-ways, etc., more attractive for wildlife.

There are many others, but this sample should suffice to acquaint the reader with some of the research bench marks now in use.

Questions to Be Answered

How can the Pennsylvania Game Commission continue to provide the most hunter enjoyment for the money expended and, at the same time, safeguard the wildlife resources? How can the Commission meet the growing demand for hunting on a land area that is figuratively shrinking? How can the requirements of an expanding human population be met and equated with game populations? The view is not entirely clear but hopefully the answers will be found by wildlife research.



Division of Land Management

By Samuel J. Kern, Chief

IT IS THE objective of this article to list some of the highlights that have been so important in forming the present day land management organization and policy. One must keep in mind the facts that game animals, especially deer, were almost extinct in Pennsylvania at the start of this century, that the beginning of the present organization was based on a need for protective measures and that, because of the pathetic lack of knowledge at that time, no land management guidelines existed.

The Game Commission was born in 1895 with the enactment of legislation creating a Board of six Game Commissioners, service to begin on November 17, 1896.

On May 11, 1905, the first step in land management for the benefit of wildlife was taken. On this date, the General Assembly approved legisla-

tion authorizing the establishment of game refuges. The first refuge was installed on Department of Forests and Waters land in Clinton County; by 1919, 24 refuges were in existence, six on leased land, the remainder on State Forest land.

In 1917, the Auxiliary Game Preserve Act became law. Its purpose was to lease land upon which to create a large number of sanctuaries, principally for small game. Also in that year an amendment to the original Game Fund Law (passed in 1913 providing for a license fee of \$1) made monies immediately available to the Game Commission. Prior to this time funds were appropriated every two years by the legislature.

A reluctance on the part of the landowners to lease land for refuge purposes soon became evident. Consequently, in 1919 the legislature en-

acted legislation authorizing the purchase of land to be known as State Game Lands and to be used as refuges and public hunting grounds.

A land acquisition program was initiated immediately. The first purchase of State Game Lands was a tract in Elk County in the year 1920, numbered 25. (The refuges mentioned above were numbered 1 to 24. However, as some old refuges were bought up and eliminated, new State Game Lands were given their old numbers. Thus we now have some SGL's numbered under 25.) Due to limited funds for acquisition purposes, the legislature in 1927 increased the hunting license fee from \$1.25 to \$2, with the provision that 75 cents of each license fee be set aside for purchasing, leasing and maintaining public hunting grounds for game refuges. Acquisition progressed steadily and by 1931 a total of 298,819 acres had been purchased and 47 individual State Game Lands established. In 1949, the legislature repealed the 75-cent earmarked act, increased the license fee to \$3.15 and earmarked \$1.25 for improving natural food and cover for wildlife, the purchase and planting of game foods, purchase of game and protection of the property of Farm Game Cooperators. This act left the door open for land acquisition not chargeable to the \$1.25 fund.

Installation of the first refuge in 1905 and many more over the years created problems of maintenance, law enforcement and public relations. Refuges varied from 650 to 3100 acres in size and the necessity for having a Commission representative on the ground resulted in the establishment of a refuge keeper system. The refuge keeper lived on or in close proximity to the refuge and was responsible for all phases of Game Commission activities.

As the years passed it became apparent that the refuge system as initially set up was no longer necessary. The deer had increased in numbers to a point where they were eating

themselves out of house and home. Today these refuges either have been removed or reduced in size. As an aside, it's interesting to note that since each refuge was surrounded by a single strand of wire, Governor Pinchot referred to them as the "telephone refuge system."

The policy of refuge establishment and land acquisition was vigorously pursued through the years and the experience gained from these programs brought about a change in the attitude of everyone interested in wildlife conservation.

A Bureau of Refuges and Lands was created and assigned the task of "creating and maintaining game refuges and public hunting grounds throughout the Commonwealth." The Board of Game Commissioners Bulletin No. 11, entitled "More Food for Upland Game," stressed the importance of the subject, especially the question of feeding game in the winter months. Another bulletin, No. 14, published in the late 1920s and revised in 1932, stated that "A knowledge of forestry is exceedingly valuable to the new Bureau due to the fact that most of the land areas being acquired are brush or woodland." It also stated

A STAND OF MILLET is examined by Land Manager Donald Watson and LMA Keith Hinman on SGL 252 in the North-central Division.





WORKERS USE TRACTOR-DRAWN scraper to improve road surface on State Game Lands in Elk County during the 1930s.

that a knowledge of the habits and food and cover requirements of game is important in setting up game refuges.

Other indications of the change in attitude toward requirements of wildlife are the titles of articles and comments appearing in the *GAME NEWS*. The May, 1930, issue carried an article called "Planting Migratory Bird-feed: \$1000 Allotted for Seed and Tubers." Also in the same issue was a column on the benefits of sportsmen scattering sumac and clover seed. Other *GAME NEWS* articles were: December, 1934, "Feeding Game in Winter"; February, 1935, "Food and Cover, Major Wildlife Problems"; April, 1935, "Lancaster County Sportsmen Plant Fifty Acres of Food Plots on State Game Lands"; July, 1935, an announcement of a wildlife food and cover expert being appointed to a position in the Bureau of Lands and Refuges; February, 1936, "Food Planting" by C. F. Walker and "Planting Food for Wildlife" by W. C. Grimm; February, 1939, "Cutting Operations to Improve Wildlife Environment on Forest Acres."

In the decade prior to World War II, several things happened that affected future Game Commission Land Management Policy tremendously.

Due to an economic depression, a number of federal relief agencies, such as C.W.A., C.C.C., W.P.A. and N.Y.A., came into existence. Experience gained from the token plantings and cuttings done in the 1920s was used as a guideline and great numbers of seedlings were planted, trees and shrubs released, and large acreages of cuttings, forest openings and food plots established. These relief agency programs came to an end in 1943; however, the food and cover development program was continued on a smaller scale until 1946. Since 1946, the entire land management program has had a continuous expansion.

Pittman-Robertson Act

Another item that had a major impact on Game Commission land management policy was the enactment in 1937 of the Federal Aid in Wildlife Restoration Act. This act was the culmination of a concerted effort by wildlife organizations throughout the United States to accelerate the restoration of natural conditions as a means of increasing the supply of wildlife. Referred to as the Pittman-Robertson Act, it provided for a manufacturer's excise tax on sporting arms and ammunition and has provided more than \$15 million to the Game Commission since 1938. The money is apportioned to the individual states on a matching basis of 75 percent federal and 25 percent state monies for investigating problems of wildlife restoration and management, for purchasing, developing and managing wildlife lands, for restoring natural habitat and for the maintenance of completed projects.

In 1946, a Pittman-Robertson financed project for mapping soils and cover types was initiated. This information was necessary for the preparation of land management plans. The beginning of this planning coincided with the beginning of an expansion of

the food and cover development work to its present vast acreage.

The third important development of this period was a policy initiated and developed by the Game Commission. Originally called the Cooperative Farm Game Refuge Program and started in 1936 under authority of the Auxiliary Refuge Law, this program was to become known later as the Cooperative Farm Game Program. In 1945, the General Assembly gave this program recognition by amendments to the Game Code regulating entry into auxiliary game refuges, farm game classification. Under this program, hunting rights are acquired by the Game Commission on agricultural type land. Sites selected for a cooperative farm game project must afford the opportunity for leasing several thousand contiguous acres. Cooperators sign a five-year lease agreeing to allow hunting on their land except in the safety zone area around the farm buildings. In turn, the Game Commission agrees to erect safety zone signs, furnish seedlings for wildlife plantings, provide technical aid in soil conservation and wildlife management, give special consideration to law enforcement, and provide each cooperator with a subscription to the GAME NEWS. To date, this program has been highly successful and has expanded to 1½ million acres, with more than 15,000 cooperators in 170 projects.

Other incidents and events of the pre-World War II period provide an insight into the evolutionary process and growing pains experienced by the Division of Land Management.

An article by Seth Gordon in the May, 1936, GAME NEWS, entitled "New Small Game Program Launched," describes this program as follows: (1) Decentralize the primary refuge system, chiefly to benefit small game, and put all refuges under a group management plan. Develop and manage the food and cover supply on all refuges. (2) Develop and manage the food and cover supply on all State

Game Lands, including selective and improvement cutting programs.

It is also interesting to note that up until that time, 1936, the GAME NEWS listed a director and assistant director of the Bureau of Refuges and Lands. In June, 1936, this was changed to a director and two assistant directors, one in Land Acquisition and one in Land Management.

In 1937, Executive Director Seth Gordon, in an address delivered to the American Wildlife Congress at St. Louis, Mo., further clarified the change in approach to wildlife problems. He said, "We are launching programs to condition our lands and waters to make them attractive to wildlife. Dependence upon restocking and law enforcement alone to fulfill the demands of present-day rod and gun pressures is rapidly vanishing in every populated state and the demand today is: What can we do? And how must we do it?"

Game Code Revised

On June 2, 1937, the legislature passed a bill revising the Game Code. Governor George H. Earle signed the bill on June 3. This revision affected the Bureau of Refuges and Land considerably. One important change was the division of auxiliary refuges into two classifications, general and farm game.

Following this revision of the Game Code, a committee of Commissioners was named to study and recommend a reorganization of the administrative process. The objective was to eliminate overlapping of administrative functions and to insure greater operating efficiency and economy. A new plan was submitted and approved to become effective January 1, 1939. Under this plan a Division of Land was established, the chief of the division to be directly responsible to the Executive Director, handling all aspects of land acquisition but taking no part in land management activities. A Division of Land Management also was established. The chief was to be re-

sponsible to the Assistant Executive Director and furnish a specialized knowledge on State Game Land management to the field forces.

Following World War II, the entire responsibilities of the Land Management Division were placed under one Chief of Land Management, with the Division subdivided into sections of Land Acquisition, Land Development and Maintenance, and Farm Game. This organization remains in effect at the present time.

Following reorganization during the years 1939 to 1946, a period influenced by World War II, the federal relief agencies vanished. Labor, materials and equipment were in short supply. However, the Game Commission land management program progressed. The total acreage of State Game Lands approached 700,000. The Farm Game Program reached one million acres in 73 separate projects. The refuge keeper system had disappeared and the state was divided into 47 land management groups, each one in charge of a land management protector. A State Game Land technician had been appointed to each of the seven field division offices.

An article by C. C. Freeburn, Acting Chief of the Division of Land Management, in the September, 1943, issue of *GAME NEWS* was entitled "Plans for Future Management of State Game Lands." It indicated that present-day attitudes were emerging. The importance of food and cover and manipulation of wildlife habitat had become an established fact.

Original Concept

In attempting to record and evaluate the events and development of land management policy for the period 1946 to the present, we should remember that the original concept of wildlife management was restrictive laws, establishment of refuges and stocking with various wildlife species—deer, rabbits, turkeys, etc. This concept was due to excellent food and cover conditions for most species in

the early 1900s and was successful beyond anyone's dream. Also it must be remembered that in the ensuing years an ever-increasing deer herd brought about a serious deterioration in food and cover conditions on many woodland areas and by the early 1950s the attitudes and opinions regarding land management had crystalized. Our major endeavor would be directed toward improving wildlife living conditions or habitat.

Early habitat development work had indicated the need for a source of shrub and conifer seedlings. Added to the requirements for seedlings on Game Lands was the need to fulfill obligations in the Cooperative Farm Game Program. Seedlings were obtained from the Department of Forests and Waters and private nurseries, and a few were grown on State Game Lands. Then, in 1953, the opportunity arose to acquire an existing tree seedling nursery. This nursery, established in 1935, near Howard, Centre County, by an Act of Congress, was to be used for the production of seedlings for the U. S. Soil Conservation Service. In 1947, this nursery was leased to the Department of Forests and Waters to grow seedlings for reforestation purposes. In 1953, Forests and Waters offered to sub-lease the 76-acre nursery to the Game Commission. In 1957, the entire nursery was turned over to the Game Commission by the U. S. Department of Agriculture. At that time the Commission adopted a policy of growing approximately five million seedlings yearly to be used for wildlife habitat improvement. First priority for seedlings went to State Game Lands, farm game projects and leased areas. Surplus stock would be given to any organization interested in wildlife conservation.

A program designed to combat trespass posting, similar to the Farm Game Program, was initiated by the Game Commission in 1947. It was suggested and considered by the Commission that safety zone posters be supplied to landowners in non-farm

game project areas. Further action by the Commission in January, 1954, April, 1955, and April, 1958, resulted in a Safety Zone Program that maintains land open to hunting on 2½ million acres owned by 28,000 cooperators. The provisions of these actions are essentially the same as those of the Cooperative Farm Game Program except that the cooperators' land holdings need not be adjacent to each other and a cooperator must have 50 acres or more of land to be eligible.

Leased Land

Another program initiated by the Commission in the early 1950s was designed to manage private land by improving wildlife habitat. Suitable land was leased for a five-year period and subjected to various types of habitat improvement. To date, more than 80,000 acres of private lands have been enrolled in this program. Generally, in the northern tier counties the typical development has been the establishment of grasses and legumes for pasture; in the southcentral and southwestern counties, development has consisted mainly of border cuttings for improving small game conditions.

In 1954, a set of recommendations was approved by the Game Commission that included most of the practices and land management techniques in use today. Following is a brief description of these practices: (1) Establish and maintain annual food strips and field areas following crop rotations adaptable to local conditions and soil and wildlife requirements, using approved soil conservation practices. (2) Establish and maintain edge cuttings where desirable along roads, trails, open areas, woodland borders and around food strips. (3) Release game food producing trees, shrubs and vines from overshadowing inferior growth; also prune fruit trees as required. (4) Establish openings in forest growth by heavily cutting or bulldozing timber in order to produce browse and low brushy cover. (5)



DURING THE DEVELOPMENT of the Pymatuning waterfowl area, wild rice was planted in the refuge to attract and keep ducks.

Make use of timber sales as the most economical and practical method of providing desirable wildlife habitat in forest areas. Such cuttings provide excellent openings and release berry and nut producing trees and shrubs. (6) Plant seedlings to produce proper food and cover conditions for wildlife.

Implementation of established land management practices was advanced considerably by two acts of the legislature in the late 1950s. One was the earmarking of \$1.25 from each resident hunter's license fee to be used solely for the "selection, restoration, rehabilitation and improvement of lands owned by, or under control or operation of the Commission and on other lands which are available for public hunting and which are adaptable as feeding, resting or planting areas." The second act was the earmarking of \$1 from each antlerless deer license fee to be used solely "for cutting or otherwise removing overshadowing tree growth, to produce



**CABIN BUILT AND USED jointly by
Refuge Keeper and Forest Ranger on
Game Refuge No. 18, Mifflin County.
Photo taken in 1922.**

underbrush sprouts and saplings for deer food and cover on State Game Lands."

With the accumulation of land management knowledge and experience, changes in the administrative organization of land management took place. As previously noted, the refuge keeper system gave way to group management. The group system was replaced by each Game Protector assuming responsibility in each district. In 1958, Game Protectors with special qualifications were designated Land Managers and given all responsibility for land management in several counties. This system has existed since 1958.

The advance in land management brought to light the need for a labor force of experienced and dependable individuals. Consequently, in 1947, the Commission adopted a resolution creating a service organization. The directive establishing this corps reads as follows: "The Service Corps will be a mobile division-wide crew, comprised of men capable of performing the same kinds of work and engaging in similar activities as have the temporary per diem employees of the Commission. One thought in connection with the new plan is to provide continuous employment for good men, thus assuring the highest type of employees to be had, and to have them

constantly available for assignment throughout the division as needed."

The plan had many merits although the division-wide use of these men was greatly curtailed by the fact that local responsibilities increased tremendously. In 1949, the name of the Service Corps was changed to the Food and Cover Corps. This group has remained in existence to the present time with an authorized employment of approximately 300 members.

Another program of importance was initiated in 1935. Designed to improve wild waterfowl conditions in Pennsylvania, the first step was the establishment in Crawford County of the Pymatuning Refuge. Since then this area has been developed to afford the best waterfowl shooting in Pennsylvania. Various structures and impoundments have been constructed on other Game Lands since 1935, and a definite pattern of waterfowl habitat improvement has emerged. Areas with major development in addition to Pymatuning are Middle Creek in Lebanon and Lancaster Counties; Shohola Dam in Pike County; Buzzard Swamp in Forest and Elk Counties; Owls Nest, Elk County; and Siegel Marsh, Erie County. Developments in and along the Susquehanna River and acquisition and development of waterfowl sites have been made in many additional counties. All of these site improvements have been successful. In addition to increasing waterfowl populations, these improvements have been of great benefit to other upland game species.

Other Programs

Numerous other land management programs of interest have been developed through the years and have resulted in many acres of improved wildlife habitat. In 1949, a Memorandum of Understanding between the Game Commission and the Forest Service, United States Department of Agriculture, was signed. This agreement was based on the mutual desire of the agencies concerned to cooper-

ate in developing and managing wildlife resources on the land within the Allegheny National Forest. Since its inception the agreement has resulted in many hundreds of acres of food plots, cuttings and waterfowl developments on the 500,000 acres of the Allegheny National Forest.

Other agreements with federal agencies are those in effect with the U. S. Corps of Army Engineers. Flood control reservoirs constructed by the Army engineers generally provide a large acreage of land suitable for wildlife. In each case where land is available for development, the Game Commission has requested an agreement for purposes of intensive wildlife habitat development. An agreement for the Conemaugh River Reservoir in Indiana and Westmoreland Counties encompasses approximately 7130 acres. Agreements also are in effect for Loyalhanna Reservoir in Westmoreland County, Indian Rock Reservoir in York County, Beltsville Reservoir in Carbon County, Alvin R. Bush Reservoir in Clinton County, Curwensville Reservoir in Clearfield County, Tionesta Reservoir in Forest County, Shenango Reservoir in Mercer County, Blue Marsh Reservoir in Berks County and Francis E. Walter Reservoir in Luzerne County. The Shenango development will be a very important link of a waterfowl development complex in Mercer and Crawford Counties. This list of agreements or permits will grow as contemplated reservoirs are completed.

Close Cooperation

Land management also has been practiced on Department of Forests and Waters land. Close cooperation between that department and the Game Commission has made wildlife habitat improvement possible on many areas. Generally the type of improvement has been limited to planting grasses and legumes in forest openings such as old fields and on skid and log roads resulting from timber operations. Also, a large amount of cutting



BOARD OF GAME COMMISSIONERS on inspection trip of proposed waterfowl refuge at Long Pond, Presque Isle, Erie County, in 1924.

has been done in stands of pole-size timber to provide immediate browse and future food and cover from the resulting sprouts and seedlings.

Since the initial purchase of State Game Lands No. 25 in Elk County in 1920, our public hunting lands have increased to 1,100,000 acres in 245 tracts. Every county in Pennsylvania except Delaware and Philadelphia contains at least one State Game Land.

The Division of Land Management also has increased in size. Each year this division accounts for 40 percent to 50 percent of the total Game Commission expenditures. These expenditures are in two categories, development of wildlife habitat and maintenance.

Maintenance expenditures amount to a sizable figure and include roads, trails, boundary lines and buildings on State Game Lands. Also included is maintenance of farm game projects.

Expenditures for the development of wildlife habitat include those on State Game Lands, leased private land, farm game projects, Allegheny National Forest, Department of Forests and Waters land, and U. S. Army Corps of Engineers land.

Development of wildlife habitat presents many problems and can be listed under numerous headings. The objectives of habitat improvement are many if one considers individual spe-



HOWARD NURSERY, in Centre County, grows millions of seedlings annually for use as cover on State Game Lands and for distribution to cooperators in the Farm Game Program.

cies of wildlife and the varied conditions of topography, existing cover and funds available. We have noted briefly in preceding paragraphs the practices that may be applied in development work. For purposes of reviewing the trend of habitat development in the last 10 years and projecting anticipated trends in the future, we believe it best to consider only two broad classifications, those applied to agricultural areas and the management of forested areas.

Orderly planning is a basic requisite for good management, and presently a program is under way to complete management plans for all State Game Lands. This planning is being done in

close cooperation with the United States Department of Agriculture's Soil Conservation Service. The Soil Conservation Service furnishes detailed information on soil capabilities and soil conditions plus information regarding the species of plants most adaptable to specific locations. The Game Commission in turn is furnishing all of the information concerning wildlife habitat improvement practices, including detailed information for management of the forested areas.

Past and Future

Evaluation of past experience in land management, the decline of available hunting acreage, the increasing number of licenses sold and other considerations indicate an obligation on the part of the Pennsylvania Game Commission to promote and implement this present land management policy which embraces more comprehensive planning.

Expanding the development of wildlife habitat on private land and the Allegheny National Forest, improving the cooperation and development with the Department of Forests and Waters, and intensifying the development of State Game Lands in the future seem to be indicated.

Available for implementation and expansion of the present program are many assets. Briefly, they include an organization of Land Managers and competent work crews with many man-hours of experience, a complement of trained foresters capable of scientifically managing wooded areas based on wildlife requirements, several million acres of land available for development and equipment and tools to do the job.

Past experience and the general trend of events indicate future policy of the Game Commission should proceed with the programs now in effect. Refinements in practices and procedures with a resulting increase in efficiency are required to remain abreast of hunting pressure and demands.

Future development for waterfowl

will require additional water areas with an accompanying acreage developed for nesting and feeding habitat. Water structures will be constructed in a manner to provide for manipulation of water levels. Each waterfowl complex will have to provide some sanctuary to allow waterfowl unmolested resting places during gunning seasons.

Development and improvement of wildlife habitat by cutting should be expanded on farm game projects, other leased private land, federal land and lands controlled by the Department of Forests and Waters.

Goals

State Game Lands development must be of greater intensity. Cropland fields with potential small game habitat must be subdivided as much as possible by use of hedges for cover and winter food. Good agricultural practices should be used in a manner best suited to wildlife. By using sharecroppers on every acre possible, equipment owned by the Commission will be free to operate where sharecropping is not feasible or sharecroppers are not available. Better winter cover must be provided through woodland edge or border cuttings, plantings of shrubs and conifers, and improvement of grass cover by better control of late summer mowing.

Since 75 percent or more of the total State Game Lands acreage is forested, a proportionate amount of time will be required to develop these areas. Plans for development and improvement of forested areas should be predicated on the fact that production of acorns, beechnuts, wild cherries and other mast is of equal importance to production of seedlings and sprouts for browse and cover. Also, consideration must be given to the fact that treatment of forested areas must consist of some type of cutting. Since cutting is expensive when done with hourly labor it is mandatory that cutting be obtained as the result of timber sales wherever possible.



IN YEARS PAST, much of the repair on roads, etc., was done manually, with shovels, axes and mattocks, as here on Refuge No. 53.

It is a logical conclusion, therefore, that management of the large forested areas of State Game Lands should strive for a balanced acreage of mature mast producers and cut-over land with the remaining acres in the various age classes between regeneration and maturity. A condition of this type gives the Land Manager the prerogative of obtaining cutting by sale of sawlogs in mature stands, sale of pulpwood where markets exist, by thinning and clear-cutting in the proper age classes, and by improvement and release cuttings in the stands of younger age classes.

To summarize, the Game Commission has in the present day Division of Land Management a capable nucleus organization with the necessary knowledge and experience, the necessary legislation and authority, and more than 7,000,000 potential acres for improvement of wildlife habitat.

Future progress will be determined by the flexibility of policy to provide funds for increasing the number of acres treated. We believe this to be needed to fulfill our obligations.

OFFICE OF THE COMPTROLLER

By John M. Smith

THE Comptroller's Office is the clearing house for all financial and budgetary transactions. The Comptroller is the chief financial officer for the Pennsylvania Game Commission; it comes under the Governor's jurisdiction through the Office of Administration in accordance with the provisions of Act 374 of 1953, and directly serves the Game Commission.

The following accounting functions are performed with respect to administration, control and coordination as an integral part of the Game Commission's Management and Operations Program:

Pre-audit of all financial transactions to determine the legality and propriety of the transactions. Following this procedure, it is determined that all policies, rules, and regulations promulgated by the Legislature, Governor, Executive Board, Budget Secretary, Secretary of Property and Supplies and the Executive Director of the Pennsylvania Game Commission are observed.

Establishment and maintenance of the official accounting records and any subsidiary and cost accounts as required by the Pennsylvania Game Commission and mandated by the State Legislature. Maintenance of these records enables this office to insure adherence to budgetary, cost and other management reports. The accounting records as maintained by this office do not include detailed accounts of county treasurers nor the issuing agents for the issuance of licenses and collection of license fees; this is a function of the Miscellaneous License Division of the Department of Revenue.

All other revenues received by the Game Commission, with the exception of money received from the sale of hunting licenses of all types, are transmitted through the Comptroller's Office to the Department of Revenue

to be credited to the Game Fund. Major types of revenue include fines and penalties received from Game Law violators, subscriptions to GAME NEWS magazine and publications sold by the Game Commission to the public, contributions received from the federal government for Game Commission participation in jointly funded federal-state conservation programs, the income from gas and oil leases on Commission-owned lands and other miscellaneous sources of income.

Disbursement of all monies from the Game Fund is made through the Comptroller's Office. This includes payments of all costs incurred in the operation of the Game Commission, grants to public and private institutions to further conservation activities, payments made in lieu of taxes on Commission-owned land to political subdivisions and the preparation and payment of all payrolls for Game Commission employees. Additionally, disbursements of all monies from the Project 70 Land Acquisition Fund and Project 500 Land and Water Development Fund are made through this office.

The official financial records of the Pennsylvania Game Commission as maintained in the Comptroller's Office serve as the sole source of historical financial information used to justify budget requests.

Financial reports and other related statements are issued monthly to measure the effectiveness of the Pennsylvania Game Commission policies, structure, and procedures in terms of fulfilling the objectives and performance of various segments of the Commission against planned programs and standards. The annual report shows the results of operations for the fiscal year and supplies information of the Game Commission's financial condition.

Division of Law Enforcement

By Paul L. Failor

Wildlife Conservation Specialist

IN 1890, the organization known as the Pennsylvania State Sportsmen's Association was formed; its primary purpose was to aid in the enactment and enforcement of laws giving additional protection to game and wild birds, to fish and forests, and to the preservation of pure water. The members of this organization were from all walks of life, but each was motivated by a determination to save and perpetuate for future generations the pleasures and benefits of wildlife that they had enjoyed.

In 1895, through the efforts and influence of this organization and that of the Honorable Richard F. Baldwin of Delaware County, then a member of the State Legislature, the Board of Game Commissioners of Pennsylvania was created. Act No. 187 defined the powers and duties of the new Commission and was signed into law on June 25, 1895, by Governor Daniel H. Hastings. This Act established the number of Commissioners at six and approved the appointment of 10 competent men to serve as Game Protectors, one of which shall be the Chief Game Protector and Secretary to the Board of Game Commissioners. No Commissioner, Protector or other officer authorized by this Act was permitted to claim or receive any compensation for his services or expenses incurred in the discharge of his duties.

The people of Pennsylvania owe a debt of gratitude for the creation of the Board of Game Commissioners, not only to the Pennsylvania State Sportsmen's Association who took the initiative, but also to the United Sportsmen, the Wildlife League, the Philadelphia Fish and Game Protective Association and many other organizations and individuals who contributed so measurably to the enactment of this



A BASIC FUNCTION of Game Commission personnel always has been law enforcement, and the organization has earned a fine reputation in this field.

important legislation. Although authority for the creation of the Board of Game Commissioners was signed by the Governor on June 25, 1895, he deferred selection of the Commissioners until November 18, 1896, at which time the following were appointed: Messrs. William F. Kennedy, Allegheny County; Charles Heebner, Philadelphia; Erving A. Stearns, Wilkes-



O. M. PINKERTON displays a few of the goshawks sent in for bounty. Such payments were discontinued on June 1, 1951.

Barre; James H. Warden, Harrisburg; E. B. Westfall, Williamstown; and Coleman K. Sober, Lewisburg.

The minutes of the first meetings held by the newly appointed group were destroyed in the Capitol fire of February 2, 1897. Mr. Kennedy apparently was elected President at the first meeting and the Commission shortly thereafter selected B. K. Warren of Lewisburg to serve, at least in a temporary or part-time capacity, as Secretary. Dr. Warren was the economic zoologist and ornithologist for the Pennsylvania Department of Agriculture. He was also the author of *Bird Book of Pennsylvania*. Although Dr. Warren served in this position only until July 17, 1898, he is credited with getting the Commission organized, and as an appointed "committee of one" it was Dr. Warren who divided the state into nine game districts.

The first Game Protectors were appointed by the Commissioners at the meeting of October 9, 1897, and this was actually the start of the Game Commission's law enforcement program. Oddly, this was about 175 years after the first Game Laws were enacted, for it was in 1721 that Sir Wil-

liam Keith, Governor of the Province, prohibited the killing of any buck, doe or fawn deer except between the first day of July and the first day of January. A hundred years later, other laws were enacted that provided some protection to turkeys, quail, grouse and woodcock, but it was not until 1873 that a comprehensive statewide wildlife act was passed. During these years there was practically no enforcement of conservation laws; however, a person could report a violation to a local official with the informant getting half of the fine.

New laws, representing almost two years of preparation by the new Commission and interested sportsmen, were approved by the Legislature and signed by the Governor on June 4, 1897. These laws required all County Treasurers to turn over one-half of all game fines collected for use of the newly-formed Commission; prohibited the night hunting of grouse, use of salt licks to hunt deer, the sale of game birds, spring hunting of wild ducks, and the use of hounds to hunt deer; established more restrictive seasons for hunting wild turkey, grouse, quail, woodcock, rabbits, squirrels and deer.

Deputy Force

The Commission soon recognized that it was physically impossible for Game Protectors alone to cover the areas assigned them, and the Commission approved the appointment of Deputy Game Protectors. All applicants for this position had to be recommended by a local gun club or protective organization, and in all such cases the club or clubs would agree to pay such deputy whatever salary and expenses could be agreed upon. The deputy would report all violations to the Game Protector who would then report same to the Commissioner in charge of the district.

On July 8, 1898, Dr. Joseph H. Kalbfus of Harrisburg was made Chief Game Protector and Secretary of the Game Commission. Dr. Kalbfus was born in Williamsport, Pa., on April 12,

1852. He spent his earlier years on the Western plains during the dangerous frontier days and then returned to Pennsylvania and practiced law. Dr. Kalbfus later became a dentist and was practicing this profession in Harrisburg at the time he was appointed Secretary of the Board of Game Commissioners. Within a few months the new Secretary was meeting with representatives of the Fish Commission and the Department of Forests and Waters and with committees of the various sportsmen's groups for the purpose of drafting new and better laws. In almost every session of the Legislature to follow, the Game, Fish and Forestry Laws were amended or new laws were added. In many cases, new and better wording was needed to obtain convictions.

The Act of March 22, 1899, made constables ex officio Fire, Game and Fish Wardens and imposed severe penalties upon constables who refused or neglected to enforce these laws. This was expected to be the answer to the enforcement problem, but time proved otherwise. In many cases, the constable was an "outlaw" himself or a market hunter, and only used his new authority to settle personal grudges or grievances. In 1925, the law revoked the requirement of constables to prosecute Game Law cases.

In 1901, several Bills bearing on game and bird protection were passed by the Legislature. These included extending the powers of Game Protectors, making distributions of fines received by them, and regulating their pay and expenses. It also made it unlawful to interfere with an officer in the discharge of his duties and for resisting arrest. Another Act required nonresident gunners not owning real estate in Pennsylvania to obtain a license before hunting in this Commonwealth, and provided penalties for those who violated this provision. The fee for a nonresident hunting license was set at \$10, of which one-half was kept by the county where the license was issued and the other half for-

warded to the Commission. Two licenses were sold in the first year.

Prosecution of this Act was difficult. In certain sections, a small piece of wild land was purchased by one or more individuals for a nominal fee. No taxes were paid and the deed was not even recorded, yet it served the purpose of exonerating the person for not having purchased a nonresident license. In other cases, a bogus deed was carried and, in event of arrest, presented to the justice of the peace, resulting in a dismissal of the charge.

In the early 1900s, the most common Game Law violations were killing game out of season, killing song and insectivorous birds, running deer with dogs, dogs killing deer, hunting by nonresidents without a license, hunting on Sundays, sale of game, and game taken by forbidden methods.

For many years before and for some years after the turn of the 20th Century, there were those who believed



GAME PROTECTORS inspect white-tailed bucks taken on Chapel Mountain in Lycoming County. Such checking is a routine part of a District Game Protector's duties.

the supply of game birds and animals in Pennsylvania was inexhaustible or else they didn't care. These were the market hunters and game dealers. Pennsylvania already had lost the bison, the passenger pigeon, the elk, the beaver, the fisher and the marten, and now the white-tailed deer, wild turkey, waterfowl, ruffed grouse, and other species were being threatened. Pennsylvania was on the verge of being a shot-out state, yet the market hunters and game dealers continued in business by circumventing laws which already prohibited their operation. Market hunting, which previously had been confined to supplying the larger cities, now was furnishing game for labor crews building roads, canals and railroads, lumbering operations, surveyors, and other types of construction work. These men shot not only through the fall and winter months but also through the spring nesting and fawning periods as well. They canvassed the country with horse and wagon, moving on or staying in areas as dictated by the scarcity or abundance of game. The average market hunter killed 40 to 70 grouse a week and one was reported to have killed 1400 grouse in a single season. Quail were slaughtered in the same manner and sometimes in the same operation. July was a legal open season for hunting woodcock and these, too, had a ready sale on the illicit market. Even the eggs of grouse, quail and woodcock were gathered and sold to photographers at high prices because of the value of their albumen. Deer were scarce, but they too were killed by the market hunter with the aid of dogs whenever and wherever they could be found.

The market hunters and game dealers always felt some sense of security, especially in the cities, because their best customers were prominent politicians and influential people. The non-hunting public had little if any appreciation for the Game Commission's efforts to prosecute these individuals because the poor fellows were

just trying to make an "honest" living. In spite of all obstacles (lack of funds, public support and better laws) the Commission, Dr. Kalbfus and all Game Protectors pursued each case with increased vigor and determination. Within a few years, every dealer was out of business and the era of the market hunter came to a close.

On July 2, 1903, under authority of the Act of April 11, 1903, seven Deputy Game Protectors were appointed. By the end of the year, the Deputy force had risen to 30. In 1904, there were nine Game Protectors and 46 Deputy Game Protectors. In 1905, by authority of the Legislature, Special Deputy Game Protectors were permitted to be appointed at the discretion of the Board. In 1906, the force consisted of eight Game Protectors, 54 Deputy Game Protectors, and 160 Special Deputy Game Protectors.

Trouble With Aliens

More than half of all Game Law violations at that time were committed by unnaturalized foreign-born residents. These people had absolutely no respect for our game, our song and insectivorous birds or our laws. They were new arrivals coming into this country at the peak of the immigration wave. The opportunity to hunt, which was denied them in their native land, was now their privilege to enjoy and they would not be bound by any laws, rules or regulations that would interfere. They hunted at all times of the year and especially on Sundays. They killed song and insectivorous birds relentlessly. Consistent with their thrifty nature, any bird or animal, no matter how big or small, was utilized as food. The breasts of songbirds made a meat-pie, pot-pie or added zest to the flavor of their sauces. Nothing was to be spared if it could be eaten. At a work camp in Lancaster County, a party of men suffered acute sickness from eating a turkey vulture.

Some, too, were of an extremely vicious nature. This was clearly demonstrated by shootings, in different

parts of the state, of a number of our citizens, one a Deputy Game Protector who was compelled to shoot this man to save his own life. In an effort to discourage the unnaturalized foreign-born residents from hunting, the Act of 1903 required them to purchase nonresident hunting licenses. This law, like all other laws, was totally disregarded; they continued to hunt without licenses. It is believed that less than five licenses were sold to aliens in the years following the passage of this Act.

Another deplorable shooting incident was soon to follow. This was the killing of Game Protector Seely Houk. He worked the western part of the state and was scorned and constantly threatened by the foreign-born population. On March 2, 1906, Seely Houk disappeared while working in Lawrence County. Silence followed his disappearance and then the report spread that he had "skipped-out" because of his own wrongdoings. This report was not acceptable to Commissioner John M. Phillips, for he knew Officer Houk well and had been told by Houk of some of the law enforcement difficulties he had in the New

Castle area. Phillips warned Houk not to work this area alone, but the Commissioner had been reassured by Houk that he had a revolver and could handle any situation.

Slain Game Protector Found

On April 26, almost two months later, Houk's body was found in the Mahoning River. The body was riddled with shot and the back of the head was blown off. The raincoat he was wearing was pulled over his head, filled with stones and tightly belted.

State and local police worked on the case, but Commissioner Phillips went to Governor Samuel W. Pennypacker and received permission to hire a Pinkerton detective with private funds. The Pinkerton man moved right into the community just outside of New Castle and found work in the limestone quarry. Within a few months, he had enough evidence to arrest a man named Rocco Racca. In September, 1907, at New Castle, Racca was formally tried for the murder of Seely Houk. Records were introduced showing that the defendant had been arrested and convicted 13 times in his native country.

The trial brought out the details of the case. Houk had killed one of Racca's unlicensed dogs for running game. Rocco swore that "just as my dog died in the woods, so shall this man die." Soon afterwards, Rocco Racca and another man saw Houk walking the railroad grade. With guns in hand, they moved to a position near which he would pass and drew his attention by firing a shot into the air. The assailants hid behind a fallen tree and when the officer came within range he was shot with a load of buckshot. Rocco Racca ran to the fallen officer, placed the muzzle of his gun almost in Houk's mouth and shot off the back of the head. The body lay where it fell until after dark, when it was carried over the embankment, loaded with stones and dropped into the Mahoning River. Racca was convicted and hanged. The other man fled the coun-



THE FARM GAME and Safety Zone Programs were established in the mid-'30s, and that's when this photo was taken near Oxford in Chester County. These programs have greatly aided hunter-landowner relationships.



THE PENNSYLVANIA GAME LAW was codified first in 1923, recodified in 1937, when it was signed by Governor George H. Earle, above.

try and all efforts to extradite him failed.

In Dr. Kalbfus' report to the Governor in 1906, he wrote the following:

"I am exceedingly sorry to be compelled to report that the slaughter of game of all kinds and the killing of our wild birds, other than game birds, by unnaturalized foreign-born residents is still carried on to a very great extent, notwithstanding the fact that we have had notices . . . posted in very many parts of the state. These notices call attention of all people . . . to the law and to their liability under it. We have arrested and punished numbers of these people with apparently no effect whatever . . . excepting in the immediate camp where the arrest was made. We have had fourteen officers shot at during the present year. We have had seven shot, three of whom were killed, and three very seriously wounded; and one other, a gentleman of Lawrence County, while not serving under a commission of this Board, was killed for doing our work. This gentleman was shot and mortally wounded within a few yards of the place where L. S. Houk, one of our regular protectors, was killed early in the spring. All of this outrageous work, so far as we are able to deter-

mine, has been done by unnaturalized foreigners. . . . We have up to this time been unable to arrest one individual accused of these wrongs. And I again reiterate what I said in my report of last year, that it seems to me the only hope of correcting this condition will be to secure the passage of a law forbidding this class of people to even have in possession firearms, or weapons of any description, within the limits of the Commonwealth of Pennsylvania.

"The question of the right of these people to carry arms is not one of game bird protection only. It is not one of safety to our officers alone, but is one of protection and justice to all our people. During the past year we have been compelled to defend ourselves upon numerous occasions, in one instance a foreigner, who was the aggressor, being killed. Two of our officers were shot in the same melee. . . . Taking all things into consideration, one would hardly consider the position of a Game Protector in this state the most enviable one to be secured."

Alien Law

On May 8, 1909, Governor Edwin S. Stewart signed into law an important amendment to the Game Law which prohibited any unnaturalized foreign-born resident to hunt for or capture or kill, in Pennsylvania, any wild bird or animal of any description; and it became unlawful for any unnaturalized foreign-born resident within this Commonwealth to own or possess a shotgun or rifle of any make. The law directed that all duly appointed and sworn officers of the Board of Game Commissioners and all constables, police officers, members of the State Constabulary, forest wardens and all peace officers of the Commonwealth arrest without warrant any person of this class when such person was in possession of guns or believed to be in possession of guns. The new law brought about a marked decrease in the number of aliens hunting and violating the

law; however, there were some violations of this Act for many years to follow. Today, the descendants of these immigrants are among the most law-abiding citizens and sportsmen in the Commonwealth. In fact, many are now serving the cause of conservation as Deputy Game Protectors and others are graduates of the Training School and commissioned as District Game Protectors.

Field Acknowledgment

Another important law passed by the Legislature and signed by the Governor in 1909 provided that any person charged with violation of any provision of the Game Laws may, at his discretion, sign an acknowledgment of guilt and pay the duly authorized Game Protector or Deputy Game Protector the penalty in full as fixed by the section violated. This proved to be a convenience to both the defendant and the Game Protector, by eliminating the necessity of traveling a long distance to a justice of the peace, magistrate or alderman, simply to plead guilty as charged. Upon payment of a penalty in this procedure, the defendant was given a field receipt in the name and seal of the Board of Game Commissioners and signed by the Secretary. This became known as a "field acknowledgment" and is still in use today.

With each session of the Legislature, old laws were amended and new ones added. In 1903, beavers became protected. In 1905, game refuges were first established, black bears were first protected and buckshot was banned for deer hunting. Fifty deer were purchased from the state of Michigan in 1906, and the counties in which they were stocked were closed to deer hunting. In 1907, the "Buck Law," which provided complete and absolute protection to does, was passed. It permitted the killing of only one deer a season (instead of two) "which in every instance shall have horns." In the same year, automatic guns were prohibited, and the hunting of all

protected birds became a violation of the law. In 1909, the Buck Law was changed, making any buck with "horns visible above the hair" legal. The use of wild turkey calls was also forbidden. (They were again made legal in 1937.) In 1911, the Legislature prohibited the use of steel traps to take bears. In 1913, a legal buck was defined as a deer with "antlers 2 inches above the hairline." Also in 1913, the bounty laws were revised. Each session of the Legislature continued to bring additional duties and responsibilities for the Game Protector.

In 1913, the Legislature granted approval for an additional 20 Game Protectors. The Commission, recognizing their increased work load, raised their pay from \$50 to \$75 a month and provided a monthly expense limitation of no more than their salary. Deputy Game Protectors and Special Deputy Game Protectors continued on a non-salary basis, receiving only one-half of the penalty in cases where they were successful in prosecuting the offender.

For more than eight years, the Pennsylvania Sportsmen's Association, as well as other organizations and individuals, labored to enact a resident hunter's license fee. On April 17, 1913, Governor John K. Tener signed this Bill into law, making it a requirement of every resident person of this Commonwealth to purchase a resident hunter's license, costing \$1, before hunting for, or taking, or wounding, or killing any of the wild birds or animals protected by the laws of this Commonwealth. This Bill further provided that the Game Commission should pay from such fund all bounties on vermin in an amount up to 50 percent of the monies derived from the sale of this license.

The Legislature further established the bounty rates at \$1 for each mink, \$2 for each weasel, \$2 for each fox and \$4 for each wildcat killed. A 50-cent bounty was subsequently placed on great horned owls, sharp-shinned

(Continued on Page 34)



Executive

SINCE THE inception of the Commission, thirteen men have served as Executive Secretary. As head of the Commission through the years, he has had a most important influence on the course of the Commission through the years, leading it to the high position it holds in wildlife management today. These include any time served by J. B. Truman, of the Commission from July 16, 1926, until his death in 1932. No photo of J. B. Truman, of the Commission from July 16, 1926, until his death in 1932, is available.

DR. B. H. WARREN, top left, of Lewisburg, November 17, 1896, to July 7, 1898. Right, Dr. Joseph Kalbfus, Harrisburg, July 8, 1898, to August 10, 1919. Ross Leffler, below left, McKeesport, July 1, 1931, to August 14, 1931. Below right, C. G. Stone, Greenville, August 15, 1931, to January 28, 1932.



THOMAS D. FRYE, Camp Hill, below, September 1, 1948, to September 30, 1953.

DR. LOGAN J. BENNETT, Bowmansdale, below, October 1, 1953, to September 12, 1957.



Directors

Pennsylvania Game Com-
served as Executive Director
earlier, Secretary or Execu-
agency, each had an im-
se followed by the Game
and was instrumental in
it holds in the world of
ates of service are shown;
Acting Executive Director.
arrisburg, Executive Secre-
November 23, 1928, was



E. F. HARWOOD, above left, of Hazleton, Jan-
uary 29, 1932, to October 31, 1935. Right, John
Slautterback, Paxtang, November 24, 1928, to
June 30, 1931. Below left, Seth Gordon, Harris-
burg, August 11, 1919, to July 15, 1926, and
January 1, 1936, to October 16, 1948. Right,
W. C. Shaffer, Pittsburgh, November 1, 1935,
to December 31, 1935.



M. J. GOLDEN, below, Harrisburg, Octo-
ber 15, 1957, to August 6, 1965.

GLENN L. BOWERS, below, Dills-
burg, August 7, 1965, to present.



(Continued from Page 31)

hawks and goshawks. (Heretofore, bounties were paid by the counties where killed, and such counties were reimbursed from general state appropriations.) The new system did not immediately change the procedure for presenting a claim. The Act of 1913, providing for the payment of bounties, among other things declares that the claimant for bounty shall go before a certain official authorized to administer oaths in this Commonwealth, and shall make an affidavit in which they shall plainly state when, where and by whom the animal or bird in question was killed. To sustain the claim, such person shall present before the official either the body or the entire pelt of the animal, or bird, for the killing of which the bounty is claimed. The Act provides that the official shall then in the presence of a witness, who shall be an elector, split the skin of the face of the animal, cut off the ears from such animal, and the head of a bird presented, and shall burn same.

While no specific appropriation was made for this purpose until May 3, 1915, the courts had ruled prior to that time that counties must pay this bounty and afterward make claim upon the state for the amounts paid out.

About the beginning of 1915, claims for reimbursement to counties began to be presented to the Auditor-General. In the auditing of these claims, it developed that untold frauds had been perpetrated upon the counties. This was made possible solely because of the careless and negligent manner in which these claims were examined by some officials, from the taking of the affidavits clear through to the payment of the claims.

Many of the officials taking the affidavits appeared to have felt no responsibility in any manner rested upon them in seeing that these claims were legitimate and honestly made. Instead they apparently felt they were simply agents through which monies in the state treasury were to be transferred

to the pockets of individuals in their community, and that the intent of the Act in requiring the affidavit was to give them a chance to make a fee. The necessity for identifying the bird or animal named in the affidavit was not considered, and that part of the law requiring the presentation of the body, or entire pelt, so that the creature might be identified, meant nothing. Thousands of affidavits examined showed nothing but parts of the skin, such as the scalp, or top of the head, and, in many instances, nothing but parts of the ears of the animal were displayed.

Fraudulent Claims

Thousands of fraudulent claims were received. Scalps of ferrets, rats and red squirrels were probated for weasels. Domestic house cats and raccoons were presented as wildcats, and any and all species of hawks were presented for bounty as goshawks, even though it was doubtful that a single pair of these predatory birds were nesting in Pennsylvania. Skins of animals, especially those of weasels, were purchased from fur dealers in Canada, New York, Indiana, Ohio or from whatever source they could be acquired at a limited price (about eight cents each) and probated in claim for bounty at \$2 each.

In one county, a man probated 102 goshawks supposedly killed during four days of the summer. The same person presented a claim for the killing of 347 weasels supposedly taken in two months' time. The evidence he presented to substantiate his claim was a collection of heads of animals and birds so decomposed and putrid as to be without hair and feathers. The Game Commission's investigation of this claim later found in the cellar of the claimant's house a tub containing at least a bushel of decayed and rotted heads which were proven to be the heads of rabbits, squirrels, turkeys and chickens.

In another case, a boy changed his affidavit from one weasel, \$2, to 11

weasels, \$22. He bought a bicycle. In still another case, a justice of the peace saw two raccoon skins tacked to a barn door, and pointing to the skins, asked the owner of the barn why he had not probated the wildcat skins. The owner replied, "Those are not wildcat skins; they are coon skins." To this the justice said, "You bring them to me and see how soon I can make wildcats of them." This was done. The affidavits were made, the certificates were filled out by the justice. The applicant got his money, \$8, and then the parties to this transaction, especially the justice, insisted that they were honest men and should not be sent to jail for fraud.

Dozens of these cases were investigated by Game Commission people and prosecutions were instituted; however, most of the fraudulent claims were paid. It is difficult to believe that so many people in Pennsylvania would commit perjury for a few dollars. Although the law governing the payment of bounty was changed on April 5, 1915, whereby every skin probated in claim for bounty must be examined and passed upon by a Game Protector or accompany the affidavit to the Harrisburg office, this did not eliminate all fraud and deception. As then, and in the years to follow, much time was spent by Game Protectors investigating illegitimate and fraudulent claims. The payment of bounty remained a constant and lasting drain on the Game Fund for 50 years and any benefits that may have been derived therefrom will always be questioned.

In Dr. Kalbfus' report in November of 1915, he makes mention that a number of the Game Protectors were assaulted during the previous year. One Game Protector, Joseph McHugh of Weatherly, Carbon County, was senselessly brought to his death. This official, in line of duty, was traveling through the woods on a Sunday with a friend. Walking along a railroad track, the two heard shotguns and moved in the direction the shots had come from. There they met a man

with a gun and several dogs. When the officer approached within six feet of the hunter and commanded him to unload his gun, the hunter sprang back and fired at McHugh. The load struck the officer in the upper chest area on the right side, tearing his lungs to pieces and lodging in the spinal column. He then pointed the gun at the officer's companion and ordered



ALTHOUGH A TWO-WAY radio system did not become a reality until 1960, it was tested in the field many years earlier.

him to "turn around and beat it!" The young man obeyed the order and the assailant fled. Within an hour Officer McHugh was dead. A Luzerne County man was arrested the same evening for the crime. He admitted the shooting but contended it was accidental. He was tried the following January in the courts of Carbon County and was acquitted.

In addition to the revision of the bounty system in 1915, other important legislation was passed in that year. Aliens were prohibited from owning dogs and the use of pitfalls and pens was prohibited for taking bears. In 1917, it was made unlawful to shoot game of any kind from an automobile, and in that year the first camp limit for deer was established.



FOLLOWING STATE'S FIRST beaver season in 1934, trapper has his pelts stamped and sealed and affidavit made out by DGP Arthur Logue.

Night hunting for all game animals, except raccoons, was forbidden. Beavers were stocked in Pennsylvania for the first time.

On August 10, 1919, Dr. Joseph Kalbfus, the Chief Game Protector and Secretary of the Board of Game Commissioners, and E. W. "Woody" Kelley, Field Superintendent of Game Refuges, were killed while on official duty, when their car was struck by a train at a railroad crossing in Warren County. The untimely death of the Executive Secretary was a tremendous loss to the Game Commission and to all people of the Commonwealth. Dr. Kalbfus was succeeded by his understudy, Seth Gordon.

With the passing of Dr. Kalbfus, it would seem only appropriate to convey to others his thanks and appreciation for all they had done and for the assistance they had given to him and the Game Protectors during the lawless years. On many occasions, he paid tribute to Forest and Fish Wardens, but his most frequent commendations were directed to the members of the State Police Constabulary. In fact,

Dr. Kalbfus, on many occasions, in his annual report to the Governor, spoke so highly of this fine group of men that it seems appropriate here to quote his remarks as they appeared in his Annual Report of 1915:

"This splendid body of men has been in the past not only rendering very great aid to our Protectors when called upon, but have also, all over the state, of their own initiative, been doing everything in their power to protect our wild birds and our game, rendering us help in our work, the value of which cannot be estimated. I certainly appreciate the help given to this office through the efforts of these men, and would be glad to see this force increased to three or more times its present strength; it seems to me it is to the interest of every true sportsman in this state to have this done."

The shooting of Game Protector Seely Houk, the assassination of Game Protector McHugh, the accidental deaths of Dr. Kalbfus and Woody Kelley, and other events of the past seemed to bring about a new respect and admiration for the Game Commission officers. More and more sportsmen's clubs were formed throughout Pennsylvania during these years, and there appeared to be considerable improvement in the relationship between hunters, landowners and Game Protectors. The people of Pennsylvania seemed to finally realize that we must have conservation laws, and that laws are meaningless unless they are enforced. The Game Commission now was being recognized as an agency that showed no partiality to any man, rich or poor. Too many Senators, Representatives and other people in high positions were prosecuted for anyone to believe otherwise.

The 1920s, under the direction of the new Secretary, brought about a complete reorganization of the field

force. Game Protectors were assigned to work more closely with Preserve Keepers in destroying vermin and to help with the winter feeding of game. Assistant Game Protectors were employed. These employes proved to be excellent material for later appointment to more responsible duties. More Special Deputy Protectors were employed during the hunting season. On January 1, 1923, the Commission was further streamlined by the creation of the Division of Law Enforcement. John B. Truman, former traveling Game Protector, was named as Chief. Within a few years, this Division was retitled the "Bureau of Protection." Operating under the direct supervision of the Chief were nine Field Division Supervisors. They, in turn, supervised 64 District Game Protectors and the Deputy Game Protector force was now 400 strong.

Game Law Amendments

Through the years, there were 57 different Acts that amended the last writing of the Game Laws. Many of the laws were repealed, obsolete or repetitious, while others were still in force as a part of our statutes applying to game protection. After many months of hard work on the part of the Executive Secretary and the compilation of questionnaires sent to all sportsmen's organizations in the Commonwealth, the Game Laws were codified and signed into law on May 24, 1923. The new laws were reduced to about two-thirds of their former bulk and were more easily understood by the sportsmen. And for the first time they were separated from the Fish and Forestry Laws. The new publication was officially known as the Game Code of 1923.

The principal changes made by the new Game Code are as follows:

1. Terms of members of the Board were increased from three to six years and the title of the administrative officer was changed from Secretary to Executive Secretary.

2. Three species of herons, hereto-

fore listed as unprotected birds in Pennsylvania (but protected by federal law), were placed on the list of protected birds, with a provision permitting them to be killed when caught in the act of killing fish in private rearing ponds. The raven, because of its scarcity, also was placed on the list of protected birds.

3. The hunter's license fee was increased from \$1 to \$1.25. Other changes concerning hunting licenses denied persons physically or mentally unfit the right to carry firearms or to obtain a license; changed the license period so it ran from May 1 to April 30 of the year following instead of the calendar year; required a license to hunt for all birds and animals, either game or otherwise; denied youngsters under 16 years of age the right to hunt unless accompanied by an adult, but permitted youngsters to trap for vermin or furbearing animals; required a report of all birds and animals killed during the season within 30 days after the expiration of the license; and reduced the fine or penalty for failure to countersign a license from \$20 to \$5. Fur dealers' licenses, costing \$1, were added to the list of special permits.

4. Seasons for wild waterfowl and raccoon were slightly changed. The daily bag limit on ring-necked pheasants was reduced from three of either sex to two males only. Female ring-necked pheasants were given absolute protection.

5. The law on deer was changed so that only "male deer with two or more points to an antler" may be killed, with an added feature providing that a deer with antlers six or more inches long without points shall be legal. (In 1953, any deer with three-inch spikes became a legal antlered deer.) The camp limit on bears was increased from three to four.

6. The law relative to closing a county was changed to include all species of game and furbearing animals and the Board was given power to reduce the length of the general

open season in any county upon petition. Another new feature permitted the Board to extend the general open season for squirrels, rabbits and woodcock.

7. The Board of Game Commissioners was given broader power to declare an open season for female deer, upon petition of 200 or more residents in any county, township or part thereof, for a three-day period after the close of the season for male deer. The fee for such special license was \$5 and the Board decided the number of licenses to be issued.

8. The law governing the size of traps was clarified and a provision added requiring trappers to mark all traps with a metallie plate or tag giving their name and address and to visit traps every 36 hours.

9. The general hunting regulations were changed somewhat, permitting hunting of all game except wild turkeys from one-half hour before sunrise to one-half hour after sunset; prohibiting shooting unless game was plainly visible; making it unlawful to dig, cut or smoke out live game from its place of refuge; prohibiting the use of non-expanding bullets; increasing the number of decoys that may be used for waterfowl hunting; limiting the time decoys may be left in the water, and requiring a decoy to be marked with the name and address of the owner.

10. Privileges of guides were extended and nonresidents were permitted to take a two-day kill of game out of state, instead of one.

11. The sale of all kinds of game except deer and rabbits killed in another state was prohibited. The penalty for an unnaturalized foreign-born resident having a dog in possession was reduced from \$25 to \$15.

12. The bounty on wildcats was increased from \$8 to \$15, and gray foxes, from \$2 to \$4 and weasels were reduced from \$1.50 to \$1.

The newly codified laws brought about a much better understanding and general law observance than was

possible at any time previously.

Although the 1923 writing of the Game Laws was believed to be complete in all respects and was to serve as a model for other state conservation departments, it was amended by the 1925 session of the Legislature, granting authority to the Board of Game Commissioners to change seasons and bag limits and to declare such special seasons as may be necessary to maintain a proper supply of game. In 1929, it was further amended and, among other changes, provided a penalty of \$500 for making use of or taking advantage of any vehicle or artificial light to hunt for, catch, take, kill, wound, or transport game of any kind contrary to the provisions of the laws. "Spotlighting" was just coming into practice and two convictions already had been obtained for hunting rabbits through the use of an artificial light of an automobile.

Uniforms

The advisability of uniforming our field officers had been considered for some time, and after careful study the Board authorized such action. All Game Protectors were uniformed in the latter part of 1929; however, the Board approved only the purchase of the basic uniform, service hat and reefer. All officers purchased the balance of their equipment, including Sam Browne belts, puttees, footwear and sidearms. Years later, the Commission furnished footwear and almost 20 years later, they purchased revolvers for all full-time law enforcement personnel.

The late 1920s and early 1930s brought about a new era that further increased the responsibilities and work load of the Game Protectors. Some animals that had been regarded as scarce or even nearing extinction only 25 years earlier were now so abundant in some areas that they were destroying farm crops or otherwise interfering with private property. Our deer herd had grown to such numbers in many areas that farmers complained

bitterly of damage. The legal kill of antlered deer had risen from about 200 in 1901 to about 20,000 annually. The Commission now had the authority to establish antlerless deer seasons, which they did (starting in 1923) in certain counties, but most seasons were blocked by the sportsmen. Until the fall of 1928, less than 2,500 antlerless deer had been killed. Farmers were killing deer for crop damage and deer-proof fencing was erected, but complaints continued. The Pennsylvania Game Commission found themselves in the middle between the landowners who were suffering damage and the sportsmen who opposed the killing of antlerless deer.

Another species was soon to create a similar problem; this was the black bear, which was first protected by the laws of 1905. In 1911, the black bear could no longer be taken in a steel trap, and in 1915 pitfalls and pens for capturing bears were outlawed. Their numbers increased substantially. In 1925, killing of cub bears was declared illegal. The results of this protection allowed the black bear to increase considerably, even though the use of dogs to hunt them was still permitted. Pennsylvania was at that time the only state in the nation to live trap and transfer these creatures. In 1920 and 1921, more than a hundred bears were live trapped by state trappers and

Game Protectors and moved to the more remote areas. While these transfers stopped the bear damage in the areas where they were trapped, these bears soon found their way to other unwelcome sites. Bears destroyed beehives, honey, sheep, pigs and corn, and occasionally raided a henhouse or killed calves and colts. With each succeeding year, bears became more brazen and their destructive raids on farms more frequent.

In 1925, the Legislature authorized the Commission to pay for damages by bear; however, the total of such claims could not exceed \$3,000 annually.

In 1903, there was believed to be but one pair of beavers in the Commonwealth. In that year, the Legislature granted this species total protection. In 1917, a pair of beavers was given to Pennsylvania by the state of Wisconsin. In the years to follow, the Commission purchased almost a hundred beavers from Canada and New York State, and these, like the others, were released only in refuge areas. Nature again took its course and within a few years, under the watchful eye of the Game Protector, they had increased their numbers to such a degree that damage complaints were common throughout the northern tier counties and in a few areas of the southcentral portion of Pennsylvania.

CLINTON COUNTY was the locale of this photo, taken during the 1930s, when Game Protectors stopped vehicles to examine deer.





DGP STEVE OPET gets account of Dauphin County hunter's success story—apparently a humorous one — while he checks license.

The beavers were cutting and flooding timber and farmlands. By their cutting and dam construction, they often disrupted telephone and power lines, flooded roadways, took over water supply reservoirs and, on a few occasions, cut trees immediately in front of private homes. Hundreds were live trapped by the Game Protectors and transferred to other areas where no damage would be done; however, this was too slow and the damage complaints continued at an accelerated rate. Seventeen years after the first beavers were stocked, the Commission was compelled to declare an open season. In the spring of 1934, the trappers harvested 6455 beavers in 50 of the 67 counties.

Each succeeding year brought about more demands for the Game Protector's time. Every event called for at least some revision of his schedule but all added hours to his working day. More and more hunters, more roads and more automobiles made coverage of his district more difficult. Hardly a year went by without some gadget or device being invented that could be used to kill or aid in the killing of game illegally. In the earlier years,

most illegal deer kills were made over salt lies during the daylight hours of July, August and September, and dragged or carried to the home of the poacher, but now more deer were being killed at night. Some cars were factory equipped with spotlights, but most spotlights were purchased separately and installed. The spotlight, powered by the battery and generator of the vehicle and used by one who would violate the law, was soon to become the deer's worst enemy and the Game Protectors' greatest problem. Deer would "freeze" to the high-powered light and within a few seconds they were shot. They were then promptly loaded and removed to the security of a home where a search warrant would be required to enter.

The depression years of the early 1930s brought about serious unemployment conditions and contributed substantially toward game violations. This necessitated increased activity on the part of all Game Protectors who now were assisted by more than 700 Deputy Game Protectors. Many perplexing problems were encountered during these years. Economic conditions were so distressing that to have inflicted full penalties under the law would have further increased the hardship of many. Far more than the usual number of convicted persons were imprisoned because of their inability to pay the cash penalty.

In 1935, the "Spotlight Bill" that provided a penalty of \$500 for killing game with an artificial light was made more realistic and more acceptable to the courts by reducing the penalty to \$100. However, in 1937, this law was again amended and provided for the forfeiture of the vehicle and other equipment used in spotlighting.

In 1934, the Federal Migratory Bird Hunting Stamp Act was passed by Congress. Now all waterfowl hunters over 16 years of age were required to purchase the stamp which was soon to be called the "duck stamp." With only one federal agent in Pennsylvania, it of course became the respon-

sibility of the Game Protector to see that all duck and goose hunters paid their \$1 fee. In 1949, the duck stamp price was increased to \$2 and in 1959, \$3.

In 1935, the use of dogs was prohibited for chasing and hunting bears. This was welcome news to all Game Protectors living in bear country for many of these dogs, and especially those that were imported into the area by city hunters, were lost on the first chase or otherwise abandoned during the season. Within a few weeks they became the worst deer killing dogs in the district.

The first class of student officers was enrolled at the Training School on July 2, 1936, and after eight months of intensive training, 27 young men were graduated as Game Protectors. Although no stronger in spirit or character than their predecessors, they were certainly better trained and qualified to give the kind of service and law enforcement that was then required.

The Pennsylvania Game Law was codified for the first time in 1923. In 1937, the entire law was recodified in order (1) to clarify uncertainties which had crept in through numerous amendments during the intervening years, (2) to revise or add certain other provisions to meet present day needs, and (3) to eliminate antiquated or needless regulations, and to simplify and improve the law throughout.

The highlights of the new law affecting enforcement are as follows: The use of firearms or bow and arrows while intoxicated or under the influence of drugs was prohibited. Possession of loaded guns in automobiles or other vehicles was forbidden. The Game Commission was authorized to revoke hunting licenses, and the groundhog (woodchuck) was given protection as a game animal. Hunting accident reports were required within 72 hours by persons causing injury to themselves or another while hunting or trapping. The Game Commission was given broader power in the es-

tablishment of seasons and bag limits, and authority to provide for bounty payments. The law restricted all magazine shotguns to a three-shell limit, magazine and chamber combined. It also prohibited the discharge of a firearm within 150 yards of an occupied building, without permission of the landowner.

Trapping Classes

Starting in 1945, the value of long-haired furs declined sharply. Hunters and trappers no longer found it profitable to take foxes for the bounty alone. The fox, raccoon and skunk populations continued to increase while the rabbit and other species of small game became scarce. There was much criticism from sportsmen's organizations throughout the state and the Commission directed all officers to participate as much as possible in the control of predaceous wildlife and especially in teaching others the techniques of trapping the elusive fox. Game Protectors held fox trapping classes in practically all counties of the Commonwealth, and as a result of these instructions, many people who had never caught a fox became "experts" overnight. The Commission also bought foxhounds for the purpose of bringing the sport of fox hunting to the attention of clubs and other interested individuals. However, all efforts failed to stem the tide of the increasing population. The pelt value of foxes continued downward at an alarming rate, while the population spiraled upward and reached its peak in the fall of 1951. The incidence of rabies in the gray species continued to climb even though more than 51,000 foxes (gray and red) were probated for bounty during the year.

Stories of gray foxes attacking school children waiting for a bus or a woman hanging up the Monday morning wash were not uncommon. Many gray foxes were killed with clubs, shovels or rakes while attacking the pet dog. Any moving object attracted the sickly gray fox. Hundreds of cattle, while in pasture, were bitten by foxes

and died of this infectious disease. Numerous individuals were bitten by gray foxes, and some died. In 1952, under orders of Governor John Fine, the Commission embarked upon one of its greatest short-term programs. This was to eradicate the rabies epidemic that was now flourishing in major proportions in the southeastern and northeastern areas of the Commonwealth. More than 100 Game Protectors were involved in this campaign that lasted for approximately three months and involved an expenditure of \$150,000 from the Game Fund. In the fall of 1953 gray foxes sold for an average of nine cents and red foxes brought 11 cents. At the conclusion of the project, the fox population returned to a healthy status and the incidence of rabies in foxes was practically nonexistent. The Commission had survived another near crisis.

In the years that followed, the Commission was reorganized many times, always for the improvement of service and to attain a greater efficiency of operation. By 1953, the seventh class had graduated from the Training School and the Deputy Game Protector force had been greatly expanded. Field operations now were under the direction of six Field Division Offices, each headed by a Supervisor. There were approximately 150 districts with a full-time Game Protector in charge of each.

The laws continued to be amended or repealed by almost every session of the Legislature. The changing times required new rules and regulations to meet the ever-increasing needs of a changing society. More people now had more time than ever before for outdoor recreation. The decade of the 1950s was a period of liberalizing laws that had been in effect for many years. The provision requiring the tagging of parts of big game animals for possession or transportation was eliminated, uncased and unwrapped guns again were permitted in vehicles at any time providing they were unloaded. Semiautomatic shotguns were

now permitted for hunting and killing of small game, predators, and unprotected birds. The period for retriever trials was lengthened, as was the period for possession of legally killed game. A permit was no longer required to possess a live raccoon that was legally taken, and the season was extended for certain classes of regulated shooting grounds. A special season was authorized for hunting deer with bow and arrow exclusively. The start of the dog training season was advanced from August 20 to August 1 and the Commission was authorized to issue special permits to disabled veterans to hunt from an automobile. The law requiring out-of-state shipping tags for raw furs was repealed in 1953, and the hunting hours during any open season in October, exclusively with bows and arrows, was extended. The Legislature also granted the Commission authority to refund fees, fines and other monies erroneously or unjustly collected.

The ranching of furs was a thriving industry in Pennsylvania during the 1950s. For many years mink, marten, fisher, and chinchilla were raised on farms for their valuable pelts. It

ROSTER OF DEER HUNTERS camped along Allegheny Ridge in Lycoming County is inspected by a Game Protector on regular patrol.



seemed that the people who were first to successfully reproduce a new strain or an exotic species in captivity were those who made the most money, generally by selling breeding stock. This led to the importation and ranching of nutria. Within a few years nutria ranches were appearing in all areas of the Commonwealth. All were advertising breeding stock, priced from \$600 to \$1200 a pair. Few ranchers had tested the market to ascertain the true value of these pelts.

After considerable research and investigation of this South American rodent (which closely resembles our beaver, but has a ratlike tail) the Commission recognized the potential danger, when the true pelt value, about \$3, would become known. The Commission also found that the species had been released into a wild state in other areas, reproduced rapidly, and destroyed the habitat of the muskrat and wild waterfowl. Knowing full well that ranchers would "open their gates" when this situation would be exposed, the Commission acted on October 17, 1957, in behalf of the public and all aquatic wildlife, by passing a resolution that prohibited the importation and/or release of nutria in this Commonwealth. This resolution remains in effect today. A similar restriction imposed by the Secretary of Agriculture in 1955 prohibited the importation into or the release in this Commonwealth of any San Juan rabbits.

Emphasis on Training

For years the Commission's emphasis was on personnel and training, and as the 1960s approached, the ninth class had been graduated from the Ross Leffler School of Conservation. Field and Division conferences and in-service training of veteran officers also were a part of the advanced training program. Every officer, both young and old, was well versed in criminal investigation, legal procedure and all other related aspects of law enforcement. There is little doubt that the

Keystone State had the best trained conservation law enforcement officers to be found anywhere in the world.

With "near" perfection attained in this field, the Commission already had turned its attention to other needs. This was in the field of communications, which had undergone practically no change since telephones were installed in all Refuge Keepers' homes in 1916.

Two-Way Radio

Radio had been under consideration for many years; however, it was not until June 6, 1960, that this dream became a reality. Pennsylvania now had its first statewide, two-way radio system. It had been established through a cooperative effort of the Council of Civil Defense and the Pennsylvania Game Commission. The initial cost was approximately \$500,000, with a substantial share of the outlay being borne by the Federal Matching Fund Program.

Only those who are closely associated in this technical field of communications could possibly appreciate the complexities involved in the construction, engineering and development of such a vast system. This new type of communication was to serve all Game Commission business and all Civil Defense needs. In case of a national emergency or an attack upon this nation by a foreign power, the far-reaching quality of this extensive system would serve a tremendous value. In addition to its use in law enforcement and general Commission business, almost from the day of its inception the radio has been used for many other purposes including flood control, plane crashes, storm warnings, forest fires, highway accidents, locating escaped prisoners and missing persons, checking license registration and to call for or assist other police agencies.

In the years since, the system has been constantly improved and expanded. Today there are 11 control stations, 225 mobile units and 90 portable units that are used when the



PGC TRAINING SCHOOL staff, 1934. Front row, from left: Lt. R. Bair, Dr. Highberger, R. H. Thompson. Rear row: J. B. Ross, W. M. Cramer, W. C. Shaffer, R. D. Reed, and Chauncey Logue.

Game Protector is on foot. In addition, some 250 Deputy Game Protectors have purchased mobile units and 30 Game Protectors have bought station units for their homes. This permits the Game Protector's wife to relay telephone calls immediately to him at all hours of the day or night.

For approximately eight years, radios were installed in automobiles owned and driven by Game Protectors on a mileage basis. In 1968, the Commission embarked on a car purchase program that eventually provided a state-owned automobile for every field officer. In many cases the furnished vehicles were more reliable than the personally owned cars and, secondly, the initial and operating expense computed to a mileage rate was less than the amount paid for the use of personally owned cars. This already has amounted to a considerable saving.

Complete Uniforms

In 1968, too, the Game Commission furnished all field officers with a complete wardrobe of new summer and winter uniforms. Uniform regulations revised and approved by the Commission required Game Protectors to be in full uniform at all times while on

official duty. And to think that one of our earliest, but no less dedicated, Game Protectors once said, "All you need for this job is a gun and a lot of guts, and the officer must supply both."

There are perhaps a hundred comparisons that could be made to show the growth and progress of the Game Commission through its first 75 years, but not one is more important than the preservation and perpetuation of all wildlife resources. Through these years, Pennsylvania has risen from the status of "a shot-out state" to "one of the best game states in the nation." Although the law enforcement division cannot lay claim to all the credit for our game abundance, law enforcement is certainly entitled to a full share.

Force Increased

Through the years, the Game Protector force has been constantly increased. From the original "ten competent men" who served as Game Protectors, the law enforcement division now consists of 142 full-time District Game Protectors and 1700 part-time Deputy Game Protectors and the fourteenth class is presently enrolled at the Ross Leffler School of Conservation at Brockway, Pa.

In Dr. Kalbfus' annual report to Governor William A. Stone in 1902, he wrote that during the year, 419 Game Law cases had been "gathered," 50 were prosecuted and nine were lost. It is an astounding comparison as we look at the records for 1969 when 7,956 Game Law cases were prosecuted for a total penalty of \$263,030. Convictions were obtained in more than 98 percent of all cases.

If we could meet with the charter members of the Pennsylvania State Sportsmen's Association who in 1890 at Corry, Pa., dedicated themselves "to save and perpetuate for future generations the pleasures and benefits of wildlife that they had enjoyed" we could assure them that this has been done.

Division of Minerals

By John B. Sedam, Chief

RELATIVELY new—that is the general description of the Division of Minerals.

Based on the need for someone to coordinate leasing and management of minerals, oil and gas rights in or underlying State Game Lands, the Game Commission established the Division of Minerals in 1956. Much of the outside pressure that brought this about was the result of continued requests to lease oil and gas rights in State Game Lands, following the successful exploration and development of natural gas fields in and adjoining State Game Lands in northcentral Pennsylvania. Prior to the formation of the new Division, the leasing of oil and gas and the disposal of minerals had been administered as one phase of the work under the Division of Land Management.

The Division of Minerals, operating directly under the Deputy Executive Director of the Commission, is presently composed of a Chief and one clerk-stenographer who rely upon Field Division Supervisors, Land Management Assistants and assigned Land Managers for recommendations and supervision of oil and gas leases and agreements involving disposal of minerals, coal, sand, gravel, stone and clay in or underlying State Game Lands.

Oil and Gas Rights Leased

Since the Division was established, oil and gas rights in thousands of acres of State Game Lands were leased at considerable profit to the Commission. The proceeds from rentals and royalties were deposited in a special oil and gas fund, which was earmarked by Game Commission directive for the acquisition of State Game Lands and construction or purchase of Field Division offices and other buildings. At the present time, there are 31



active oil and gas leases, upon which are located 34 wells producing natural gas. Slightly less than \$2½ million have been received from this source since the original leases were executed in 1953. Although the oil and gas fund presently receives less than \$56,000 each year from leases and wells that are now considered marginal producers, the income received over past years has been well utilized. To date, five modern Field Division offices have been constructed or purchased and thousands of acres of State Game Lands were acquired with funds from this account.

Review Reservations

Minerals, coal and clay underlying thousands of acres of Game Lands were reserved by prior owners when the surface was sold to the Game Commission, with the owners retaining the right to mine and market these deposits. Personnel in the Division of Minerals review the wording of reservations to determine the method by which mining may be conducted and then prepare and execute agreements covering these operations. Terms of most agreements require the mineral owner to pay surface damage royalties to the Game Commission, backfill or level the affected areas and revegetate the land by planting a combination of trees, shrubs, vines, grasses and clovers which control erosion and provide food and cover for wildlife. Land Managers and personnel from the Division are in constant contact with these mineral owners or contractors and work closely with them to assure proper reclamation of the area affected by mining operations. Surface damage payments received from mineral owners have averaged slightly over \$26,000 per year since the Division of Minerals was established.

Because of the fact that State Game Lands were purchased primarily to provide acreage suitable for public hunting and on which wildlife habitat could be improved, the sale of Game Commission-owned minerals, coal, fire

clay, sand, gravel and stone has been restricted to locations recommended by field employees and Division of Minerals personnel. The sale and removal of these materials is limited to sites where operations will not adversely affect wildlife management and development plans, and must be approved by the Commission. Agreements covering each sale require the purchaser to cooperate with commission personnel while the operation is in progress and revegetate the surface when mining or excavating activities are terminated. Disposal of sand, gravel and stone deposits provide much needed fill for the Commonwealth's highway construction program and scarce materials required by local contractors. Royalty payments received for these materials are deposited in the Game Fund for use in land acquisition and other Commission programs.

Future Inventory

Although personnel in the Division of Minerals have been assisting the Division of Land Management by reviewing applications and preparing licenses for rights-of-way which allow oil and gas companies, other utilities and individuals to cross State Game Lands and/or establish microwave, television and other towers thereon, the future demands for natural gas, oil, minerals, coal, clay, sand, gravel and stone deposits will limit the time that can be devoted to these cooperative activities. As funds become available, the Division plans to conduct a complete inventory of minerals in or under State Game Lands, including information on ownership and maps showing location of each deposit and data related thereto. Complete information for each tract of State Game Lands will better enable personnel in the Division of Minerals to answer inquiries from the public and quickly solicit bids for specific minerals, oil, gas, coal or less valuable deposits to be sold by the Pennsylvania Game Commission.



Division of Propagation

By Ralph E. Britt, Chief

GAME PROPAGATION has had a long history in Pennsylvania. In 1905, a special appropriation of \$6,000 was given to the Game Commission for the purpose of propagation and purchase of certain game.

The Commission's first large-scale stocking of ring-necked pheasants occurred in 1915, when 1000 were released in various places in the southern and central counties. The birds were placed under the control of sportsmen who promised to care for them and report conditions as the year progressed. The reports were quite gratifying since broods contained from four to 12 young birds. In some sections the released birds deserted the locality but appeared in other areas where no birds had been released. Some of the birds were reported killed by dogs and farm machinery. Farm machinery also was responsible for the destruction of many nests. The reports showed that 600 of these birds were taken legally by hunters during the open season. At that time Game Commission personnel were of the

opinion that ring-necked pheasants would starve during periods of deep snow unless they were artificially fed and cared for and probably would not increase in a wild state. The plan was to release birds in the spring so that they could raise young which would be available for the fall hunting season. This procedure would be repeated each year.

In 1916, 5380 ring-necked pheasant eggs were purchased and given to Game Protectors and sportsmen in various sections of the state, along with the instructions for hatching the eggs and caring for the chicks that might be hatched. Chicken hens and bantams were used to incubate the eggs and brood the chicks. The conclusion was reached that if pheasants could be raised as easily as chickens, the price of pheasants would not be \$3 as compared to 50 to 75 cents for a chicken, as it was then. Obviously, the pheasants were harder to raise. The number hatched was 2978 and 952 were released, at an approximate cost of \$1.20 for each bird.

A summary of game purchased and distributed between December 1, 1915, and November 1, 1916, follows:

Elk, from the Yellowstone National Park	95
Deer (whitetail)	193
Deer (English fallow)	21
Wild Turkeys	81
Bronze Turkeys (half-wild blood)	151
Ring-necked Pheasants (English variety)	461
Ring-necked Pheasants (Chinese variety)	72
Ring-necked Pheasant Eggs	5380
Quail	1011
Rabbits	2668

In 1917, 624 turkeys were obtained from the mountains of Virginia and Tennessee for release in various sections of Pennsylvania. Some were released in territory where the wild turkey had been exterminated years ago; others were released where native wild birds were found in limited numbers. All birds were carefully fed and reports indicated there was a very gratifying increase in numbers.

Game species and numbers released between December 1, 1917, and November 30, 1918, follow:

Deer (Virginia whitetail)	13
Wild Turkeys	101
Turkeys (part-wild blood)	171
Ring-necked Pheasants	1817
Ring-necked Pheasant Eggs	7664
Rabbits (Cottontail)	384
Fox Squirrels	26

Switch to Pheasants

It was reported in 1919 that ring-necked pheasants could never be expected to take the place of the ruffed grouse, but reports relative to the increase in most sections of the state were quite encouraging. Many men who formerly hunted exclusively for grouse now spent their time hunting for ringnecks. Commission personnel were satisfied that releasing mature pheasants was more desirable than

supplying eggs. However, it was felt that there were many instances where people became actively interested in the work of the Commission through attempting to hatch and raise pheasants.

It was noted in 1922 that the quantity of desirable game available for restocking was rapidly growing less in all parts of the country. Some states had passed legislation prohibiting exportation.

The Legislature of 1923 inserted a provision in the new Game Code which directed the Game Commission to expend 20 percent of the net revenue derived from the resident hunting licenses for game stocking and feeding. It was felt at this time that dealers would increase prices since they knew that a certain amount of money must be used for stocking purposes. It was during the period of 1922-24 that more game was stocked than in any similar period until that time.

No deer for stocking purposes were purchased after 1925. It was felt that there were enough deer in practically every section of Pennsylvania. The first Hungarian partridges were stocked and the entire state was closed to the hunting of these birds in 1926. Desirable wild turkeys continued to be difficult to obtain. The variety of game available in large numbers at that time were cottontail rabbits, varying hares, ring-necked pheasants and bobwhite quail. The number of each of these obtained since June 1, 1915, was:

Cottontail Rabbits	197,973
Varying Hares	16,320
Ring-necked Pheasants	59,958
Bobwhite Quail	59,653

By 1928, the Commission was unable to purchase the necessary supply of game for stocking purposes and began the propagation of ring-necked pheasants on an extensive scale. Each refuge keeper was furnished with a number of eggs, pens were erected and a bonus was paid for each bird raised to 10 weeks of age. The Com-

mission furnished the eggs, feed and pens.

By 1929, it was felt that the supply of game would not be sufficient to meet the demand. The better the game conditions the more sportsmen go afield to hunt. This held good not only in Pennsylvania but in other states and the competition between the states to purchase the commercially raised game became so great that the prices were almost prohibitive. The Commission established two game farms for the propagation of ring-necked pheasants and the production of pheasant eggs for distribution to game refuges and to sportsmen's organizations and individuals interested in raising ringnecks to be released on lands open to public hunting.

Fisher-Eastern Game Farm

The John S. Fisher Game Farm, named in honor of the governor of Pennsylvania, is located near Schwenksville, Montgomery County, and contains 328.2 acres. The name of the farm was changed on March 10, 1946, to Eastern Game Farm. The C. G. Jordan State Game Farm, given the name of the Honorable C. G. Jordan, Secretary of Agriculture, was built in Lawrence County, about seven miles east of New Castle. The Game Commission purchased 324.9 acres for this site.

In addition to these established state game farms, propagation of ring-necked pheasants was carried on at 31 game refuges by the refuge keepers as part of their regular work, from eggs furnished by our game farms. Results were encouraging. In addition to the two game farms for the propagation of ringnecks, the Commission obtained title to 937.8 acres of farm and forest land in Lack Township, Juniata County, for the propagation of wild turkeys. The actual operation of this farm did not start until the 1930 hatching season. The Commission authorized the purchase of 331 turkeys showing considerable wild traits and



ON FISHER GAME FARM in 1931, chicken hens were used to hatch perhaps 20 pheasants at a time. One incubator used today accommodates 80,000 eggs!

well marked. The best birds, 50 hens and 10 toms, were held for breeders and the others were shipped for stocking purposes. The records of turkeys purchased to this period indicated that a total of 2556 birds had been purchased and released prior to the establishment of the turkey farm.

The propagation of the ruffed grouse was undertaken in cooperation with Rolling Rock Club near Ligonier. From a few settings of grouse eggs, obtained from the wild in 1929, six birds—one cock and five hens—were raised. A few wild birds were placed in the pens but unfortunately many died from blackhead. However, the remaining grouse produced a satisfactory number of eggs and the percentage of fertility was very good.

During the winter of 1929-30, our officers in southwestern Pennsylvania experimented with a trap to take ring-necked pheasants alive. Plans were made to trap hen pheasants for release in suitable areas.

Rabbit trapping operations were undertaken on Barbados Island in



THESE CHUKAR PARTRIDGES were raised at Loyalsock Game Farm in 1936, as part of the Division of Propagation's experimental work with different game bird species.

Schuylkill County and also on Presque Island, Lake Erie.

One of the most noticeable effects brought about by the establishment of the state game farms was in the price of game birds offered for sale. Just prior to the establishment of these farms, the price of ring-necked pheasants had increased steadily from \$2.50 to \$6 for mature birds. Two years after the state game farms began operating, mature pheasants were being offered at \$4 each and the price was still dropping. Pheasant eggs dropped in price from 40 cents each to 10 cents each. One of the former suppliers of ring-necked pheasants to the Game Commission told me that when the price of ringnecks dropped to \$5 each he felt it was no longer profitable to raise them and discontinued this phase of his farming operation. In engaging in the game bird propagation the Game Commission pointed out that it is not in actual competition with private game farms inasmuch as the birds are not offered for sale.

About the time the Commission was seriously considering establishing a game farm for the propagation of native bobwhite quail, the DuPont de Nemours Company, of Wilmington, Del., was planning to discontinue its game farming activities. The DuPont

Company offered the Commission its entire quail propagating equipment. This offer was accepted, and the equipment moved to the Fisher Game Farm. This equipment, which included a large incubator, the latest type electric brooders, several pairs of bobwhite quail, and other miscellaneous supplies, was set up on the site of the old Gowdy farm, now a part of the Fisher State Game Farm. Here the Commission had altered and improved an old homestead as well as a small stone building for an incubator house. Thus, in a month or two, the Commission was prepared for its first year of bobwhite quail propagation on a rather large scale.

Continued success was had in the propagation of ring-necked pheasants at the majority of game refuges. As additional experience was gained by the refuge keepers the average cost per bird decreased from \$1.99 in 1928 to \$1.03 in 1931.

In 1929, the Commission first distributed ring-necked pheasant eggs from the state game farms and gave 50,891 eggs to sportsmen and farmers in 1931. The number of pheasants raised and released from this source was slightly over 25 percent.

An experiment in the propagation of cottontail rabbits continued at the Fisher State Game Farm in 1931. The results obtained warranted additional activity along this line, and in 1932 two additional rabbit propagating areas were established, one of 25 acres at the Jordan State Game Farm and the other at Game Refuge No. 23 in Huntingdon County of about 45 acres. The rabbit propagation area at the Fisher State Game Farm was increased from 4½ acres to 25 acres.

Artificial Brooding

Early in 1931, the Pennsylvania State College and the Game Commission entered into an agreement to conduct a two-year experiment in the artificial brooding of ring-necked pheasants. The Game Commission provided \$2,000 for equipment, feed and

other expenses.

Two incubators were available, a cabinet agitated-air machine, and a sectional still-air machine. Both machines were used for complete incubation and hatching. Best results were obtained from the combined use of the two machines.

Two general methods of brooding the pheasants were studied, namely, battery brooding and colony brooder houses. Best results were obtained from the use of the colony brooder house method. It is still being used today.

A survey in 1930 showed that Hungarian partridges were then found in 31 counties and that our officers actually knew of 3543 Huns. The Commission had released a total of 11,086 Hungarian partridges in 43 different counties.

Surplus Shipped

Field officers of the Game Commission continued to trap surplus pheasants in several counties in southeastern Pennsylvania. Some of these birds were shipped to other sections of the state and some were relocated in the southeast.

Rabbit trapping continued and the Commission paid trappers at the rate of 50 cents for each rabbit trapped and turned over to the District Game Protector.

Propagation of the Reeves pheasant was undertaken in 1931 at Game Refuge No. 35 in Susquehanna County. Forty-seven were successfully raised. This number was supplemented by the purchase of a limited number of Reeves from private game farms, and in 1932, 99 of these birds were released in Cameron, Chester, Jefferson, Luzerne and Lycoming Counties. Some encouraging reports were received and in Cameron County where six birds were released, three hens were observed with broods. A total of 723 Reeves was stocked. All eventually disappeared.

The propagation activity of the Game Commission showed decided

advances during the calendar years of 1932-33. The efficiency of the three game farms, already established, was greatly increased and the year 1933 saw the establishment of the Loyalsock Game Farm, located on the Loyalsock Creek, five miles north of Montoursville in Lycoming County. At both the Fisher and Jordan farms mechanical equipment was installed in 1933. The number of birds raised, using modern equipment rather than chicken hens, increased production greatly. Various improvements were made at the turkey farm during 1932-33 so that the farm was equipped with first-class mechanical equipment.

A new policy designed to improve the quality of pheasants raised at the state farms and to greatly increase the number of full-grown male pheasants available for spring liberation each year was adopted by the Commission in 1935. This policy called for the rais-

YOUNG RINGNECKS get their wing feathers clipped to curtail their movements at Fisher Game Farm in Montgomery County—now known as Eastern Game Farm.





OTHER GAME BIRD SPECIES experimented with included, from left, the Reeves pheasant, Elliot pheasant and Hungarian partridge.

ing of adult male pheasants at the farms, while hen pheasants raised were shipped as soon as they reached the proper degree of maturity.

Pure Mongolian ring-necked pheasants were added to the breeding pens at the Jordan and Fisher farms to furnish new blood. Later, Chinese pheasant breeders were purchased to increase the speed of flight of the birds raised. Our birds today are still predominately Chinese.

Wild turkey mating areas, established early in 1936, resulted in a marked improvement in the quality of wildness in turkeys raised on the wild turkey farm. Selected breeding hens from the farm were placed in open-top enclosures of some eight to 12 acres, where they were mated with wild toms.

While very limited experience with the artificial propagation of Hungarian and chukar partridges had been carried on in previous years, substantial increases were achieved in the number of Hungarian partridges produced. In 1936, 606 Huns were raised on the farms, while in 1937 this figure was increased to 855. At that time this represented the largest number of Hungarian partridges raised in Pennsylvania by artificial incubation and brooding. It was also found that the chukar partridge was comparatively easy to raise and that the production

of this bird was limited only by available equipment and stocking requirements.

The Commission has had wild game trapped and transferred for a number of years in a number of the most densely populated counties, especially in the southeastern part of the state. It authorized the development of extensive rabbit transfer work beginning with the winter of 1938-39.

Under Section 930 of the Game Law, a special setup has been provided whereby the Commission may establish State Game Propagation Areas on and within publicly owned or privately owned lands upon the approval of the proper authorities. These areas are posted against all hunting so as to allow wildlife an opportunity to breed and propagate under natural conditions; from them, animals and birds may be removed by the Commission or its agents for restocking elsewhere. Such areas are managed and developed as the Commission considers advisable and necessary for the successful propagation and increase of wildlife.

These propagation areas, together with city watersheds, state institutional grounds, parks, nurseries, towns, boroughs, cities, etc., represent the areas from which game was trapped and transferred during two fiscal years as follows:

<i>Species</i>	<i>Fiscal Year 1938-39</i>	<i>Fiscal Year 1939-40</i>
Cottontail Rabbits ---	22,980	31,053
Ring-necked Pheasants	1,820	3,211
Bobwhite Quail -----	63	1
Wild Turkeys -----	—	6
Gray Squirrels -----	862	1,703
Raccoons -----	56	36
Red Squirrels -----	20	24
Woodchucks -----	—	12
Totals -----	25,801	36,046

In 1939, six-week-old pheasants were shipped to sportsmen in addition to day-old chicks and eggs. By the end of that year the Commission had established 14 wild turkey propagation areas. From certain of these areas, all of which were located in the true range of the wild turkey, eggs were collected for use at the Wild Turkey Farm; at others the hens were allowed to hatch their young, the resulting birds replenishing the population in the surrounding territory.

Production Stepped Up

During the period of 1941-42, production at the state game farms was stepped up considerably; in fact, it exceeded greatly the program of the previous biennium, especially in regard to the number of pheasants, quail and wild turkeys released. Furthermore, the number of wild turkey propagating areas was increased by seven, bringing the total to 21. There was a reduction in rabbit purchases but the Commission's program of live trapping and transferring native game was expanded proportionately. The annual operating budget for the four farms was held at \$150,000. The seasonal production goal was set at 30,000 mature pheasants, 12,500 full-grown quail and 2000 adult Hungarian partridges, all for spring release, also 2000 wild turkeys, part for fall and the remainder for spring planting. The Commission continued its program of furnishing pheasant eggs, day-old chicks and six-week-old birds to sportsmen.

During 1942, 2928 Hungarian partridges were released; none were released in 1943. In spite of the fact that thousands of the birds had been released during the previous few years, the plantings had not reproduced well and the Commission discontinued their propagation. All of the Hungarian partridges on hand were exchanged with South Dakota during the spring of 1944 for twice the number of wild-trapped ring-necked pheasants. Half of these pheasants were retained for breeding stock and the balance were released. In 1970, the Commission sent 200 wild-trapped ring-necked pheasants to South Dakota in exchange for an equal number of sharp-tailed grouse.

War conditions during the years 1944-45 severely retarded production at three of the Commission's four game farms. Bobwhite quail propagation was maintained above the normal level but turkey and pheasant production fell approximately 50 percent.

Operations were transferred from the old State Wild Turkey Farm, Juniata County, in the spring of 1945, because of unfavorable conditions there, and a new turkey farm was established in Lycoming County. This farm has an area of over 1600 acres and an annual production capacity of 6500

RING-NECKED PHEASANTS at the Loy-alsock Game Farm, 1936, being collected for shipment to the field.



wild turkeys.

The day-old pheasant chick program was expanded and over 46,000 chicks were shipped to sportsmen's clubs and farmers in 1945. Sportsmen were encouraged to raise day-old pheasant chicks and the number of eggs shipped was drastically reduced. This was the last year that six-week-old pheasants were supplied.

Operations were completely transferred from the Jordan Game Farm, Lawrence County, in 1947 because of unfavorable conditions. The new farm, which is known as the Western Game Farm, has an area of 551 acres and an annual production capacity of over 30,000 ring-necked pheasants. All usable equipment was transferred from the Jordan Farm to the Western Farm, which is located near Cambridge Springs, Crawford County.

Quail production on the Eastern Game Farm was decreased and experiments were carried on to produce better birds for liberation since the Commission is interested in quality rather than quantity.

Thirteen wild turkey propagating areas again were put into operation in 1947. Seven were used for restocking only and six were used for collecting eggs for the Wild Turkey Farm in order to increase the wild strain in the present stock.

Two ring-necked pheasant farms

A GOOD LOAD OF cottontail rabbits arrives at the freight station in Harrisburg during December, 1938.



and the Wild Turkey Farm were operating at full capacity in 1951-52, but quail production was limited to 10,000 birds per year and efforts were continued to produce birds that were better able to survive in the wild state.

The two wild turkey areas were utilized, both for restocking and egg collecting, to maintain the wildness of the strain. Too much cannot be said about the efforts to restock these wild birds. They have been liberated in much of the northcentral range and in the several years since this program has been under way they have reproduced amazingly.

During 1951, 6182 mallard ducks, five to seven weeks of age, were banded and liberated. These ducklings were purchased and raised at State Game Land 213, in Crawford County.

Hardening Pens

To increase the wildness of young turkey toms liberated prior to the hunting season, two open-top pens, of approximately 40 acres, were constructed. One was located in Cameron County and the other in Blair County. Young toms from the game farm were placed in these pens for a hardening period of six to eight weeks and then released throughout central Pennsylvania. Reports indicated that these pens were a great help in acclimating these young toms.

During 1953 the Commission received 49 sharp-tailed grouse as a gift from the province of Manitoba.

That year the rabbit trapping program was curtailed to 30 days, yet the number trapped, 59,516, was the highest since the program was started, 18 years before. The highest number ever trapped in a single year was 67,426 in 1955.

Mallard ducks continued to be purchased, raised at State Game Land 213, and released.

Additional pens were constructed in Venango, Westmoreland and Monroe Counties during the 1953-54 period. The northcentral pen was not used after 1961, since the wild turkey pop-

ulation in this area became self-sustaining.

In 1955, a new turkey hardening pen was built in Berks County, making a total of six pens, one for each of the six Field Divisions.

The raising of five-week-old mallards continued. In 1955, in addition to those purchased, 300 breeder ducks were held for egg production in open-top pens at Pymatuning Lake, where wild drakes had access to the pens. The eggs were hatched and the ducklings reared along with those purchased from private sources.

A flock of Canada geese was started in 1952 at Pymatuning. This program has since been expanded to include birds at the Middle Creek Waterfowl Area, in Lebanon-Lancaster Counties, and Hoover's and Clemson's Islands in the Susquehanna River.

The Southwest Pheasant Hatchery at Distant was established in 1953 and renamed the Southwest Game Farm in 1957, with facilities to produce about 15,000 ring-necked pheasants.

During the years 1957-58, 586,719 pheasants were released, the highest number ever liberated by the Commission.

In 1959, it was no longer necessary to purchase any ducklings from commercial breeders. The State Wild Waterfowl Farm produced all the ducklings needed for liberation.

The number of pheasant chicks distributed to sportsmen and farmers reached an all-time high of 229,685 in 1959.

Cockbirds Only

Beginning with the spring of 1960, cockbirds only had been released in the northern nonpheasant range section of the state. Very little natural reproduction takes place in this area; therefore, only pheasants which are legal game were made available through stocking.

Two wild turkey laying pens were used in 1961. One in Clinton County, State Game Land 89, Farrandsville, and the other in Lycoming County,



A TURKEY WATCHES curiously while an employe feeds young mallard ducks at Fisher Game Farm in summer of 1931.

state forest land near Waterville.

The pheasant chick program was curtailed to the extent that no new applications were accepted from farmers in 1963. Since that time the number of chicks has gradually been reduced even though no change was made in the sportsmen's program.

The two turkey laying pens were again used in 1963, and have been used at least once every three years since that time.

The Commission continued to operate six game farms for producing ring-necked pheasants, bobwhite quail, mallard ducks and wild turkeys. Total game farm production goals are 100,000 pheasants, 10,000 bobwhite quail, 10,000 mallard ducks and 6000-7000 wild turkeys.

Fifteen-week-old pheasant cockbirds are purchased from Pennsylvania breeders for release during the middle of October.

Plans are currently under way to expand yearly pheasant production at the Eastern Game Farm to 40,000 birds. This will increase the total game farm production to about 130,000 annually.

Each year the release of game birds to supplement the natural production becomes more important as the area for game production and hunting decreases.



Division of Information and Education

By Roy W. Trexler, Chief

SOON AFTER the Pennsylvania Board of Game Commissioners became a state agency in 1895, it became apparent that an Information Section should be included in the organizational structure. Despite constant fiscal problems, the Commissioners insisted that the unit be formed.

On November 16, 1924, Dr. George M. Sutton was selected as Chief of the Educational Service. As his assistant, Leo A. Luttringer started his long and illustrious career with the Information Section. It is rather unusual to note in the record that about this time the Bureau title was changed to read Research and Information. At the very beginning of this newly formed section, specially selected lecturers were appointed. Some of the Commission's first educational pamphlets were distributed during these early years.

Dr. Sutton officially resigned in 1929 and Leo Luttringer became Chief of Education. During this same year, Luttringer felt that closer contact should be maintained with the field personnel and he solved the problem

DURING EARLY YEARS, many photos were bought from free-lance photographers such as John A. Dick, shown here getting picture of a crow's nest while on field trip with Dr. B. H. Warren.

with a Monthly Service Bulletin, which was printed in mimeograph form. The Bulletin was extremely popular and there was a public demand for this unusual information.

The December, 1929, issue offers the first educational moving pictures to field officers. At the same time some of the early educational posters were made available to the public.

During 1930, the Pennsylvania Game Commission designed two major exhibits that were presented at county fairs and other outdoor events throughout the state. Also during the summer months, exhibits and demonstrations were presented at Boy Scout camps.

George Koehler was assigned to the Information and Education section in 1929. During his stay until retirement in 1962, he planned and built some of the Game Commission's finest exhibits. All displays in the Reptile House at the Hershey Zoo today were created, designed and installed by Koehler.

Motion picture theaters in Pennsylvania and adjacent states extensively utilized a requested short 35mm movie film on safely hunting Pennsylvania wildlife entitled "A Hunting We Will Go." Radio was also a new medium for reaching the public and the Game Commission was invited to participate in the new venture.

In 1931, the title Pennsylvania GAME NEWS replaced the Service Bulletin, but the information continued to appear in mimeograph form. During the same year the Game Commission was expanding the school lecture program and a new educational bulletin, "Mammals of Pennsylvania," was prepared and distributed.

The April, 1932, issue of GAME NEWS was the first to be printed in magazine form. At the close of the 1935-36 biennium, there were more than 10,000 paid subscribers to GAME NEWS.

The Pennsylvania Game Commission has furnished attractive exhibits for many years. The exhibit presented at the Farm Show in 1936 proved so



COMMISSIONER H. J. Donaldson, Gifford Pinchot, an unknown man and Wm. B. McCaleb met at Gray Towers near Milford, Pike County, in September, 1922, to discuss conservation matters. Candid photo by Seth Gordon.

popular that it was transported to Washington, D. C., where it was displayed at the Mayflower Hotel during the American Wildlife Conference. The state of Vermont then asked to have the display to be transported at their expense.

At an early date several persons realized the importance of involving young people in wildlife conservation. In 1936, Mr. Luttringer instituted plans for a cooperative program with 4-H clubs. This outstanding association with youth groups and the Pennsylvania Game Commission has continued to the present day. Boy Scouts, Girl Scouts, FFA, 4-H and Junior Conservation Camps are in constant touch with the staff and field officers.

Mr. Luttringer was successful in having Delbert L. Batcheler transferred from the Bureau of Predatory Animals to the Public Information Division in 1936. Mr. Batcheler has added greatly to the organization since he possesses excellent qualities in many fields. He won international recognition for a black and white wildlife photograph, and his work in conservation motion pictures has been excellent. This includes the very pop-

ular film, "History of the Eastern Wild Turkey in Pennsylvania." As Wildlife Conservation Education Specialist, his greatest responsibility involves the planning and design of the Commission's major exhibit each year. At present Mr. Batcheler is third in number of active years with the Commission, having 41 to his credit.

Through a WPA Art Project in 1937, a very extensive silk screen poster campaign was conducted which resulted in a wide distribution of 11 different pictures on various phases of wildlife conservation. Some of the older records indicate that numerous educational pamphlets and motion picture films were available.

1937 GAME NEWS Circulation

A rather accurate record of paid subscribers to GAME NEWS was kept each year. In 1937, there were 25,000 subscribers.

The year 1938 saw the completion of the Pymatuning Waterfowl Museum. Over the years this educational venture has proven to be one of our best presentations to the general public. To accommodate the large number of student classes that utilize the specimens for study purposes, a new lecture hall was added to the original museum in 1969.

From 1941 to 1946, many of the Game Protectors and staff officers were in the military service. This prompted a great deal of improvising and substitution. To supply speakers during the interim period, special lecturers were selected to fulfill the assignments. Ten men and women served in this capacity in 1945.

Mrs. Zelda Ross was assigned to GAME NEWS circulation in 1945. She was completely dedicated to the work of the Commission until her retirement in 1968.

In 1946, Jacob Bates Abbott produced a set of paintings that became nationally famous as the first bird and mammal charts ever presented by the Pennsylvania Game Commission. Ned Smith painted a more complete set in

1964. These are still available, in two sizes.

During the 1945-46 biennium, a motion picture film lending library was established. The response was far greater than anticipated, and due to the limited number of prints excessive damage to film resulted, and the program had to be reduced considerably. At this same time, the Commission granted approval to produce the first sound motion picture film in color.

Will Johns became an important member of the I & E Division in 1947.

The first Special Services Assistants were assigned to the Field Division offices in 1947. Later they were called Conservation Education Assistants and today they go by the title Conservation Information Assistants.

Members of the various news media requested a regular Game Commission news release. To fulfill the request, Robert D. Reed came to the Harrisburg office on the assignment, following years of experience in the field. To know exactly what the newsmen desired, they were invited to attend a conference at our training school. This gathering was most helpful in determining the needs and wishes of the news people. Mr. Reed very capably fulfilled another assignment which established close liaison through the Harrisburg office and the Field Division offices through the Conservation Information Assistants.

In 1948, Ralph Cady was assigned as a photographer. Some of his color slides are prize winners and he has worked on the production of various wildlife movies. He is presently gathering movie footage for a new Commission activities film.

Will Johns was assigned as Editor of GAME NEWS in 1949. Johns conducted a survey to determine which type of article was most popular among the readers of GAME NEWS. To stimulate greater response from paid subscribers, he designed a contest for Game Protectors and deputies. Through his efforts a substantial increase was noted in the number of



PART OF THE Division of Information and Education's work always has been presenting exhibits to the public. This one was at Conneaut Lake in 1924.

paid subscribers to the magazine. Johns was recalled as a reservist to the military service from July, 1951, to December, 1952. While he was gone, Ned Smith served as acting editor. Ned has been one of the most faithful contributors of copy, artwork and painting for many years. His columns "Walking Shoes" and "Gone for the Day" have been admired by countless readers.

Through the cooperation of the Hershey Estates, a large building in the Zoological Garden was made available to the Game Commission at no cost, not even for maintenance, for displaying numerous permanent exhibits throughout the year. This outstanding educational display is available to the public.

About this time, the Game Commission approved cash subsidies to several museums, youth groups and the Conservation Laboratory for Teachers at Pennsylvania State University. These grants continue to be awarded on an annual basis. Many teachers became aware of the educational aids that are available through the Game Commission. Several publications are good examples. The book *Pennsylvania Birdlife* was well accepted and is now going into its sixth edition.

Paul Failor's ever popular booklet "Trapping and Predator Control Methods" is now being revised for the sixth time. Obviously, people were responding with great enthusiasm to the efforts of the Game Commission in the field of wildlife conservation education.

During this particular era, specifically, beginning with the September, 1950, issue, GAME NEWS was reduced in size from 8½ x 11½ to 6 x 9 inches. The hope was that this would make it more attractive and easier to handle. An immediate increase in circulation was reported in 1952. In this same year, Mr. Luttringer received approval to establish the Twenty-Five Year Service Club.

Archery Movie

With the increased interest in archery hunting in Pennsylvania, the Game Commission produced a film in 1952 entitled "How to Shoot the Bow." This film was closely followed in 1953 by one of the better wildlife films at that time, "Conservation at Work."

In 1954, 16 television stations presented 15-minute movie programs produced by the Game Commission. The series continued for 13 consecutive weeks.

One of the old Game Commission

ledgers contains the report of a pilot project on outdoor education conducted at the Ross Leffler School of Conservation by the Broekway School District in 1955 and 1956. This excellent cooperative program still exists between the training school and the Broekway School District.

In many instances, the Game Commission received national recognition. One of these events took place at Valley Forge during the 1957 National Boy Scout Jamboree. Game Commission personnel served on important committees and Game Protectors were on hand at three wildlife management areas.

In 1958, a shoulder insignia was prepared in the form of a Keystone containing a grouse in flight as a token of recognition for Junior Conservationists. A voluntary Hunter Safety Program was established that year.

ABRAM CHILCOTE and Refuge Keeper **John Baumgardner**, old comrades of the woods, at Trough Creek, Huntingdon County, in 1923. Chilcote was then 84 years old and Baumgardner 68.



GAME NEWS circulation continued on an upward trend and in 1959 had 53,000 subscribers. By 1960, 2500 weekly newsletters were being mailed to newspapers, radio and television stations. From these efforts, the Game Commission was gaining tremendous support and recognition.

Our first state symbols chart was printed by the Game Commission in 1959. It shows Pennsylvania's official flower, tree, animal and bird, the mountain laurel, hemlock, white-tailed deer and ruffed grouse.

After an illustrious career with the Game Commission, Leo A. Luttringer retired on June 6, 1961, after 39 years of service. He never lost interest in Game Commission activities during his retired years, and it is with regret that we report he passed away on March 18, 1970, while this report was being written.

George Harrison came to the Pennsylvania Game Commission and became GAME NEWS editor in 1961. As a young boy, George was involved in the Game Commission program when he played a major role in a movie production entitled "Outdoor Kids." George was instrumental in the editing and layout of the popular book *Mammals of Pennsylvania*. His ideas and leadership were important in the establishing of Pennsylvania's Big Game Records Program. While George was with the Game Commission, paid circulation of GAME NEWS increased beyond all expectation.

John C. Behel became Hunter Safety Coordinator in 1961 and immediately expanded the program to prepare for the eventual mandatory Hunter Safety Program.

The paper "Drumming Log" appeared during the early 1960s, and was prepared as a house organ by Will Johns with news about Commission personnel. "Drumming Log" is mailed to salaried officers, deputies and retired officers.

Soon after the retirement of Leo A. Luttringer, it became necessary to assign another man to fill a vacancy.

Ken Gardner, who was serving as a very capable biologist in the field, came to Harrisburg in 1962 as Wildlife Conservation Education Specialist. He left the organization in 1964 to accept a position with the Extension Service in New York State.

Will Johns resigned in 1964 and accepted a position in Washington, D. C., with the National Wildlife Federation.

In 1964, the Executive Board approved the creation of a Division of Information and Education. This function previously fell under the Division of Administration. Following various field assignments for 27 years, Roy W. Trexler came to Harrisburg in 1964 to serve as Chief of the Information and Education Division.

Deer Records Program

The Information and Education Division in cooperation with the Pennsylvania Outdoor Writers established a Deer Records Program in 1965. This new venture became an immediate success, with some 1300 racks measured and recorded the first year. Permission had been granted by the internationally recognized Boone and Crockett Club to use their scoring system. George L. Norris, Field Supervisor in the Southwest Division and an approved official scorer for Boone and Crockett, was responsible for training the officers to do the measuring. The program extended from March to September and was climaxed by an awards night program attended by over 300 persons. Engraved bronze medallions were presented to first-place winners in three categories, typical and non-typical deer taken with a gun and the best buck taken with a bow. Dr. Elmer Rusten, Chairman of the Boone and Crockett Records Committee, came from Minneapolis to serve as master of ceremonies.

George Harrison resigned his position as GAME NEWS editor in December of 1965 to become managing editor of "National Wildlife."

L. James Bashline became GAME



BILL KOEHLER, son of retired Refuge Keeper George Koehler and now assistant superintendent at Loyalsock Game Farm, was subject of this 1935 photo.

NEWS editor in 1966 and resigned the following year to accept a position with "Field and Stream." Jim is credited with conceiving the idea of a Triple Trophy Award, given to hunters who take a buck, bear and turkey in Pennsylvania in the same license year. The program has generated a great deal of interest and surprisingly there are nonresident hunters who have qualified for the award.

Ted Godshall came to the Commission in 1966 as an information writer and also serves as Associate Editor of GAME NEWS. He completed two issues of GAME NEWS until the present editor, Bob Bell, was hired in February of 1967. Bell came to the Commission with a wealth of experience. He is a nationally known authority on hunting scopes and ammunition. Prior to coming here, he was Associate Editor of *Gun Digest*.

Despite the fairly frequent change of magazine editors during the past five years, the popularity of GAME NEWS continues to grow. This is evident from the record which shows that the May, 1969, issue had a circulation of 208,992.

On October 6, 1966, Franklin L.

Orth, Executive Vice-President of the National Rifle Association, came to Harrisburg and presented the first-place award to the Pennsylvania Game Commission for the best Hunter Safety Program in the nation. The ceremony took place in Governor William Scranton's reception room. John C. Behel, Hunter Safety Coordinator, prepared the report that was entered into national competition.

In 1967, the Information and Education Division presented the second Big Game Awards Program. More than 1400 racks were measured and recorded. Awards were presented to the winners at the annual fall banquet of the Pennsylvania Outdoor Writers.

With increasing interest in the Hunter Safety Program, there was a definite need for an archery handbook. John Behel contacted several outdoor writers and artists, and in 1967 the archery guide became available for students in hunter safety classes.

Monthly Television Program

The fall of 1967 began a new era for the Information and Education Division. For the first time, the Pennsylvania Game Commission signed a contract to present a monthly one-hour television production in cooperation with Station WITF-TV in Hershey. The programs have provoked much fine comment and another contract was executed for 1970.

In 1968, the producers of "The American Sportsman" television program contacted the I & E Division and completed plans to photograph a pheasant hunt in Lancaster County. The opportunity to participate on the ABC network was welcomed. The actual filming was done in the fall. Phil Harris, Tuffy Goff and Curt Gowdy were the official guns. Former Commissioner Carroll Hockersmith handled the dogs during the action.

Years ago a Junior Conservation Award Certificate and embroidered shoulder patch were awarded to deserving young people. This is another worthy promotion credited to Leo

Luttringer. In 1968, the Commission approved the design and purchase of a new Senior Conservation certificate and shoulder patch. During the same Commission meeting, approval was received to print the bird and mammal charts in 11 x 14-inch size, which made them suitable for framing and display in the home. The original 20 x 30-inch charts were designed as teaching aids in the classrooms and for identification purposes in sportsmen's club headquarters.

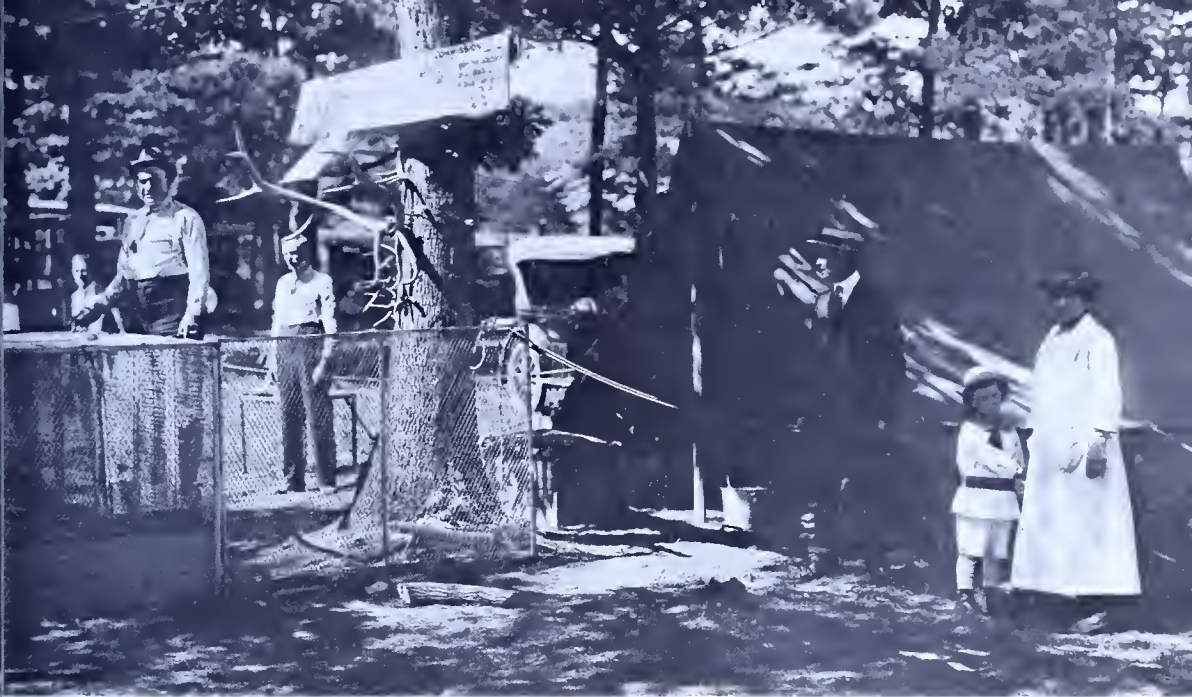
Howard W. Bower came to the Harrisburg office in 1968 from the position of Game Protector in Montour County. He assisted John Behel in preparing for the mandatory Hunter Safety Program.

A new mandatory hunter safety law became effective in 1969. All first-time hunters under 16 had to complete a four-hour course before a hunting license could be purchased. Hunter Safety Coordinator John Behel arranged for the necessary booklets, charts, guides, pamphlets and posters. New shoulder patches were designed and ordered for students and instructors. Game Protectors, their deputies and many individuals and groups were trained as instructors. At the end of the first year of mandatory hunter safety training, 72,227 students had been certified.

Many subscribers to GAME NEWS have a rather complete set of back copies. To facilitate the storage and display of the magazine, the Commission approved a binder to hold a year's issues. The binders went on sale in 1969.

Colorful dinner place mats were produced by the Commission for sportsmen's banquets and civic functions. The year 1969 witnessed several outstanding promotions. Game Protectors and deputies participated in a GAME NEWS subscription contest in an effort to increase the magazine circulation. A total of 4064 subscriptions were forwarded to Harrisburg.

It is costly and time-consuming to have a commercial photographer do



HARRY VAN CLEVE AND SAM PRICE display caged animals at Game Commission's Huntingdon County Fair Exhibit, 1924.

developing, printing and enlarging. To overcome the problem, the I & E Division, under the direction of Mr. Batcheler, designed and established a new Game Commission photographic processing laboratory. This facility went into operation in 1969 under the direction of Joe Osman.

The third Big Game Records Contest also was conducted in 1969. A new feature was included in the program when Pennsylvania black bear skulls were measured and recorded for the first time. The awards dinner was held in Warren during the fall meeting of the Pennsylvania Outdoor Writers.

A regularly scheduled radio program, "Voice of America," from Washington, D. C., is transmitted around the world. Many listeners asked for information on hunting recreation in Pennsylvania. To accommodate the requests, two newscasters came to Lancaster and taped a series of programs that were beamed to many nations in all parts of the world.

Following the three Big Game Awards Programs, several people suggested that a composite record of all these Pennsylvania racks be printed in one copy. In May of 1970, the booklet

"Pennsylvania Big Game Records" was made available to the public.

Following the fine job done by Howard W. Bower during the first year of mandatory hunter safety, he decided to leave the Harrisburg staff and return to the field as Conservation Information Assistant in the South-central Division.

Karl Maslowski, a professional wildlife photographer, is presently preparing an educational film on wild creatures in Pennsylvania. This will be another outstanding production suitable for both young and adults.

According to many recent indications, the Information and Education program will have to be expanded to keep pace with ever-increasing demands.

A new program expected to be helpful in future years involves the establishment of several visiting centers in various sections of the state.

Now having passed the 200,000 point in circulation, it is believed GAME NEWS will become even more popular. In regard to this, special recognition should be extended to the circulation department whose dedication has proved highly important through the years.

Service of Commissioners

<u>Name and Address</u>	<u>Service Began</u>	<u>Service Ended</u>
1. William M. Kennedy, Allegheny	November 17, 1896	November 17, 1905
2. Charles Heebner, Philadelphia	November 17, 1896	February 23, 1899
3. Irving A. Stearns, Wilkes-Barre	November 17, 1896	February 13, 1901
4. James H. Warden, Harrisburg	November 17, 1896	November 17, 1910
5. E. B. Westfall, Williamsport	November 17, 1896	March 5, 1902
6. Coleman K. Sober, Lewisburg	November 17, 1896	November 17, 1914
7. Dr. C. B. Penrose, Philadelphia	February 24, 1899	December 21, 1922
8. J. L. H. Denny, Ligonier	March 6, 1901	January 14, 1905
9. William H. Myers, Williamsport	March 6, 1902	August 11, 1909
10. Frank G. Harris, Clearfield	January 31, 1905	January 19, 1908
11. John M. Phillips, Pittsburgh	November 21, 1905	March 20, 1924
12. Arthur Chapman, Doylestown	January 20, 1908	January 5, 1916
13. Laning Harvey, Wilkes-Barre	September 17, 1910	May 18, 1915
14. W. B. McCaleb, Harrisburg	February 8, 1911	March 20, 1924
15. John S. Speer, St. Marys	December 16, 1914	January 24, 1918
16. George D. Gideon, Philadelphia	May 19, 1915	November 17, 1919
17. Thomas Martindale, Philadelphia	March 23, 1916	September 17, 1916
18. Dr. H. J. Donaldson, Williamsport	December 29, 1916	August 16, 1929
19. Wilson McGrew, Pittsfield	January 24, 1918	July 6, 1919
20. *John S. Speer, St. Marys	July 7, 1919	July 23, 1925
21. William S. Ellis, Bryn Mawr	January 16, 1920	March 20, 1924
22. Col. Henry W. Coulter, Greensburg	December 21, 1922	March 20, 1924
23. Adolf Muller, Norristown	February 20, 1924	January 31, 1935
24. Jared M. B. Reis, New Castle	March 20, 1924	December 23, 1931
25. Francis H. Coffin, Scranton	March 27, 1924	December 23, 1931
26. Franklin G. McIntosh, Franklin	April 8, 1924	May 28, 1931
27. Richard E. Reitz, Brookville	April 20, 1926	March 12, 1935
28. Harry C. Stackpole, St. Marys	June 24, 1927	December 23, 1931
29. Ross L. Leffler, McKeesport	June 24, 1927	December 23, 1931
30. J. Aug. Beck, Williamsport	October 22, 1929	December 23, 1931
31. Dr. W. H. Moore, Philadelphia	July 3, 1931	August 13, 1935
32. Ralph L. Eckenstein, Williamsport	January 6, 1932	January 3, 1935
33. Ernest E. Harwood, Hazleton	January 6, 1932	March 19, 1932
34. Dr. Samuel H. Williams, Pittsburgh	January 18, 1932	February 18, 1935
35. Howard Stewart, Clearfield	March 16, 1932	February 8, 1935
36. A. Hunter Willis, Erie	March 16, 1932	March 12, 1935
37. J. O. Creveling, Wilkes-Barre	March 19, 1932	May 6, 1937
38. Nicholas Biddle, Bethayres	February 11, 1935	January 21, 1969
39. Samuel Castner, Williamsport	February 26, 1935	July 15, 1942
40. *Ross L. Leffler, McKeesport	March 26, 1935	January 1, 1957
41. A. W. Lee, Jr., Clearfield	March 26, 1935	January 12, 1943
42. Robert Lamberton, Franklin	March 26, 1935	July 20, 1952
43. Frank B. Foster, Phoenixville	June 22, 1935	November 26, 1940
44. William G. Fluke, Saxton	October 10, 1935	December 6, 1940
45. John H. Price, Scranton	May 10, 1937	July 15, 1941
46. O. Ben Gipple, Harrisburg	December 6, 1940	July 15, 1941
	Reapt.	May 8, 1943
47. G. I. Phillips, Alexandria	July 7, 1942	July 15, 1941
48. *Ernest E. Harwood, Hazleton	December 6, 1940	May 8, 1943
49. S. Harold Fisher, Huntingdon	June 5, 1942	May 8, 1943
50. Harold Moltz, Williamsport	August 13, 1942	May 8, 1943
51. Carl W. Rothfuss, Williamsport	August 13, 1942	December 9, 1942
52. Dr. C. E. Phillips, Sunbury	December 9, 1942	December 29, 1942
53. A. J. Hanes, St. Marys	January 4, 1943	May 8, 1943
54. *G. I. Phillips, Alexandria	January 12, 1943	May 8, 1943
55. *Harold Moltz, Williamsport	July 22, 1943	April 20, 1955
56. Dr. H. E. Kilgus, Brockway	July 22, 1943	†January 20, 1953
57. John C. Herman, Dauphin	July 22, 1943	November 12, 1949
58. Dr. Carl B. Rosenkrans, East Stroudsburg	April 13, 1944	November 5, 1958
59. B. K. Williams, East Stroudsburg	April 13, 1944	August 23, 1945
60. Joseph P. Willson, Smethport	October 8, 1945	July 24, 1955
61. Herbert L. Buchanan, Franklin	December 29, 1949	July 22, 1953
62. Andrew C. Long, Shamokin	June 8, 1953	
63. Tom L. McDowell, Bradford	June 25, 1953	January 17, 1961
64. C. Elwood Huffman, Marshalls Creek	May 19, 1954	§May 22, 1956
65. Dewey H. Miller, Bedford	July 25, 1955	August 5, 1961
66. Russell M. Lucas, Philipsburg	May 9, 1956	December 6, 1962
	Reapt.	January 20, 1959
67. James A. Thompson, Pittsburgh	February 2, 1959	
68. Carroll F. Hockersmith, Shippensburg	June 28, 1957	
69. R. G. Smith, Berwick	November 5, 1958	October 4, 1965
70. Russell L. Mervine, Stroudsburg	October 29, 1961	January 6, 1970
71. Ernest B. Hart, Johnstown	January 29, 1962	March 11, 1963
72. Loring H. Cramer, East Stroudsburg	December 28, 1962	April 8, 1963
73. Frederick M. Simpson, Huntingdon	March 11, 1963	
	Reapt.	§
74. Robert E. Fasnacht, Ephrata	August 2, 1963	
75. E. J. Brooks, Lansdale	March 21, 1964	
76. *Andrew C. Long, Shamokin	October 5, 1965	
	Reapt.	§
	April 29, 1969	
	January 6, 1970	

*Indicates the six persons who previously served on the Commission, were later reappointed, one more Commissioners having filled that office during the interim.

†Resigned at expiration of term.

§Interim Appointment.

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IN THIS ISSUE

FEATURES

	Page
Go, Harvey Havermeier, Go!	2
By Day C. Yeager	
Annual Antlers	10
By Earl V. Wise, Jr., and Keith C. Schuyler	
To Walk a Crooked Path	14
By Susan M. Pajak	
See Yourself as Game Sees You	16
By Byron W. Dalrymple	
A Look at Luck	20
By Albert G. Shimmel	
Back Country Motoring	27
By John B. Miller	

NEWS

Field Notes	34
Conservation News	38
Hunter Safety Education	40
By John C. Behel	

COLUMNS

Going Lightweight (Camping)	48
By Les Rountree	
Fun in the Field (Archery)	50
By Keith C. Schuyler	
Summertime Hunting (Guns)	56
By Don Lewis	

COVER PAINTING BY J. M. ROEVER

This part of the year is often known as the "dog days" to the general populace, a period apparently related to the appearance of Sirius, the Dog Star, and referring to some weeks of hot, sultry summer weather. Hunters, too, often think of this time in relation to dogs—their hunting dogs, that is—for Pennsylvania's dog training season extends from August 1 to March 31, including Sundays, from sunrise until 9 p.m., EST. Raccoon dogs may be trained until midnight. Carrying a shotgun or rifle while training dogs is prohibited.

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There Was a Time . . .

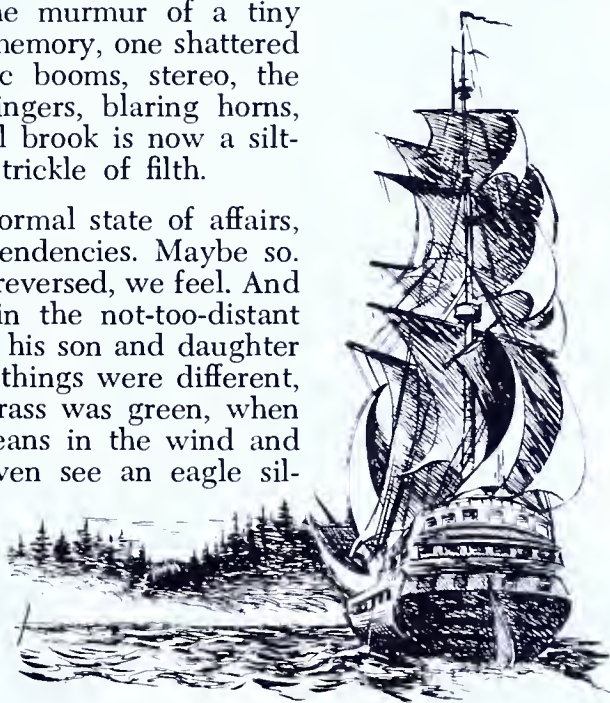
THERE WAS A TIME—nobody alive remembers it, but the fact is recorded—when the first sign of New England noticed by incoming clipper ships was the odor of fresh pine carried to them by offshore breezes. I wonder what it must have been like to a seafarer, after weeks of gazing at blue-green water receding under distant cumulus clouds, to slowly become aware of the scent of pine drifting out from wooded hills that were still far beyond the horizon. That fragrance doesn't greet the returning traveler anymore. Instead, nauseous piles of smog hang on that horizon like some sort of poison—which in fact is what they are. It hasn't taken long, either, to accomplish this change. A few hundred years—less than a dozen generations—have wiped out the pines and given us ghettos.

There was a time, and many alive can remember it, when a deer hunter in northern Pennsylvania's hills thought nothing of slaking his noontime thirst at almost any ice-cold stream, dropping on all fours to bury his face in the tooth-aching coldness, rising to blow rainbow droplets from his nose tip and continue his hunt refreshed. Few hunters take that gamble nowadays, though they think nothing of driving daily on highways where they know a thousand every week are going to die. The odds are better on the roads, they'll tell you, and maybe they're right. At least no typhoid awaits them there.

There was a time, and perhaps most of us can remember it, when silence could be found. Not absolute silence—that wouldn't be wanted, it would make hearing useless—but the soft green quiet of a summer meadow cooled by breezes from shady hills, a silence in which the rustle of one's moccasins in the deep grass disappeared in the murmur of a tiny brook. Now that silence is only a memory, one shattered by screaming jets and their sonic booms, stereo, the moans and shouts of would-be singers, blaring horns, tied-up traffic . . . and that crystal brook is now a silt-clogged, can-littered, acid-burned trickle of filth.

It's all inevitable, some say, a normal state of affairs, given today's population and its tendencies. Maybe so. But we doubt it. The trend can be reversed, we feel. And it had better be. Or some day, in the not-too-distant future, a father is going to look at his son and daughter and say, "There was a time when things were different, when the air was pure and the grass was green, when wheatfields moved like golden oceans in the wind and sometimes, way up, you could even see an eagle silhouetted against the blue bowl of the sky. There was a time when life was worth living."

But his son and daughter aren't going to believe him.—*Bob Bell*





Go, Harvey Havermeyer, Go!

By Day C. Yeager

ALL THE characters in this story are *true* characters; only their names have been changed to protect the innocent. The only person whose name hasn't been changed is Harvey Havermeyer; I wouldn't protect him if he asked to borrow a candle to check a gas leak in his basement. There is no intent to wage a scurrilous attack on all the innocent Harvey Havermeyers of the same name, only the one who picks out all the cashews in a bowl of mixed nuts, lives across the street, and spends half his time minding my business.

I should have known better than to get mixed up with Harvey and hunting—especially in that order. From the day he moved into our block, he started helping me with my problems. He rigged up a burglar alarm on my car and the gas tank blew up. He hooked up my electronic garage door and now it opens and closes every hour on the hour when the town clock strikes. He concocted a new weed killer and spread it on my lawn and it worked. It killed my weeds, also my grass, my *taxus cuspidata*, my *viburnum plicatum*, my *tamarix pentandra*, and the neighbor's cat. He was a lot of fun to have around until that fateful night about a year ago.

Harvey was picking all the cashews out of the mixed nuts, shaking his glass so I'd notice the ice cubes weren't sloshing, and diagnosing my physical condition.

"You just don't look right," he advised, as he shook the nut bowl and

handed me his glass. "Why don't you knock off a little work and go hunting with us this year. It'll turn that complexion of yours from green to brown."

On the way to the kitchen, I took a quick look into the hall mirror. I did seem to be a little more green than brown. I shouted from the kitchen, "Oh, I haven't hunted in years. Used to have a single-barrel shotgun, about fifteen-gauge or something, but I never hit much with it."

"Fifteen-gauge, boy, you're something," Harvey guffawed.

I dug out another pound of cashews and put them in the nut bowl, stirring them about. Since Harvey eats only the cashews, the rest of the nuts last for months.

As I handed my friend the bowl and his glass, I opened my mouth and heard myself say, "If I were to go hunting, I would have to get some equipment. I don't even know what to purchase."

"Well, now, ol' buddy," Harvey replied, "that's the least of your worries. You just scoot down to Appleby and Farnsworth's and tell them I sent you. They'll fix you up just fine. The season opens a week from Saturday and we can pick you up at the house. Charlie Cranshaw and Wilmer Phillips will be along and we'll teach you the tricks of the trade. Do you good to get out with the fellows. Oh, yes, bring along a lot of lunch and a gallon of coffee; my wife makes awful coffee."

The day before the opener was also payday. I cashed my hard-earned pay-



MY WIFE WOULD be proud of me whenever we had guests and I told how I'd bagged such a trophy. I could also have the feet mounted to hold my newly acquired firearms. . . .

check and found myself scurrying to the sporting goods emporium with confidence. As I entered, a stately man who looked more like Farnsworth than Appleby greeted me with a smile and an expensive set of dental transplants.

"Good day, sir. And what can I show you in the sporting goods line that is, shall we say, not too strenuous? Perhaps a nice five-pound weight-lifting outfit for a starter. It'll do wonders to build up your physique."

I squared my shoulders and noticed that it pained a bit. "Sir, I would like to purchase a hunting outfit."

"Will it be a gift for one of your friends, sir?" he asked.

"No," I answered. "It's for me."

"Hmmm!" He said something under his breath that I failed to catch and added, "Step this way, sir."

I couldn't step the way he did because his legs were a lot longer than mine. I followed him into a room full of guns and hunting gear.

"Of which type of hunting do you intend to partake, sir?"

I stumbled a bit in my decision. "Oh, well, I guess you might say I intend to partake of a general type, all around sort of hunting. You know, a rabbit here, a bear there, maybe a couple of geese — geese — now and then."

"Sir, how many guns do you wish to purchase?" he asked.

"Just one."

"Hmmm! That poses a problem. One generally does not go hunting for all the various species with a single gun. However, if you prefer to do so, may I suggest an over and under shotgun-rifle combination with a variable power scope."

"Yeah, that's exactly what I had in mind," I answered expertly.

An hour later, the one who looked like Farnsworth was reading off a list of items as he rang them into the cash register. "Now, we have the gun, the scope, the cartridges, the shells, the English type hunting coat, the brush-proof pants, the blaze-orange cap, the boots, a dozen decoys, four game calls insulated socks, a camouflage outfit, a compass, a duck carrying strap, waterproof matches, a dog whistle. . . . Oh yes, about the dog whistle. You won't know if it works because you can't hear it. Just take the dog's word for it. Now where was I? A bottle of scent that makes you smell like an apple. and a license holder. I can't think of anything else, can you, sir?"

\$247.36 . . . Plus Tax

I couldn't think of anything else except how much all this was going to cost me.

"That will be two hundred and forty-seven dollars and thirty-six cents plus the tax, sir," he advised. "Cash or credit?"

I withdrew my pay envelope, took a quick accounting, and gulped "Credit!"

"I shall have to ask you, sir, do you have any references, anyone who can

recommend you for an account of this size?"

"Oh, yessir, Mr. Harvey Haver-meyer recommends me and said that I should give you his name. He's my neighbor, you know."

"In that case, sir, perhaps we'd better make it cash."

As I returned from the bank to pay my bill, the tall one had everything neatly packed in a huge box. "I'll have one of the boys help you to your car, sir," he offered politely. I really needed help to the car when I thought about two hundred and forty-seven dollars and thirty-six cents, plus tax.

Sales Slip

My wife greeted me tenderly and asked what I had bought. I opened the package and the sales slip fell out, right side up.

"You must be out of your mind," she advised as she checked the prices. "You and Hilarious Harvey are a matching pair. All the clowns aren't in the circus. If brains were music, the two of you together couldn't squeak out a hemidemisemiquaver."

I agreed.

During the evening, my wife and I discussed some of our favorite subjects: the mortgage payment, the insurance premium, the gas bill, the light bill, the phone bill, my sanity, et cetera. She talked right through my efforts to entertain her with the sounds of four different game calls. My *caw-caws*, *gobble-gobbles*, *honk-honks*, and *quack-quacks* were obviously not very impressive.

Things had quieted down by 5 a.m. on the opening day. I arose at dawn so as to not be late. I knew the fellows would want to get going at day-break. I dressed in my most impressive outfit—the camouflage outfit seemed appropriate for the occasion—filled my pockets with all the items I had purchased and brandished my trusty shotgun. Or was it a rifle? As daylight broke, I broke the monotony of waiting by sighting in on all sorts of imaginary game. A charging bear fell

at my feet, ducks fell from above, flushing pheasants folded, and a squirrel tumbled from the lantern post. I didn't miss a target.

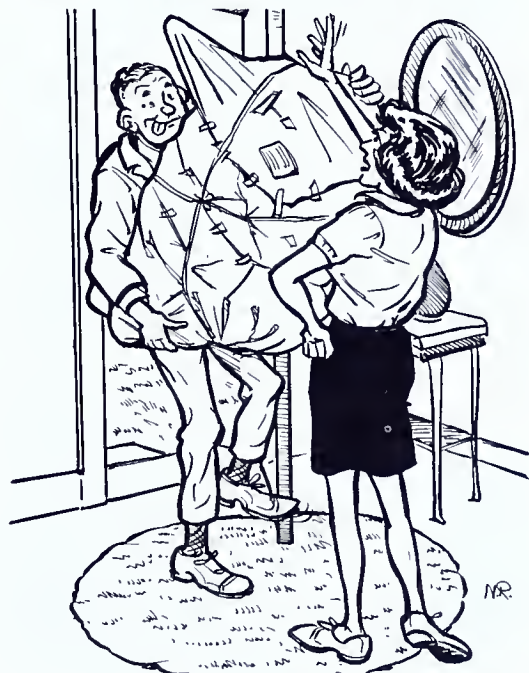
Two hours later, I had run out of imaginary game and no one had shown up except the milkman. He kept his distance. I walked over to Harvey's house and rang the doorbell. Quite some time later, Harvey appeared at the door, rubbing his eyes and yawning. "What in blazes are you doing up so early," he snarled. "You some kinda insomniac, or something?"

"Don't we have to get an early start before everybody else shoots all the game?" I asked.

"Not the first day, meathead, the season doesn't begin until nine. I guess I forgot to tell you that. Well, you got me up, I guess I might as well stay up. Come on in and make some breakfast for me while I get going." It gave me a warm feeling to be wanted.

As he complained about the toast, the eggs, and the coffee, Harvey explained that we were going to hunt

MY WIFE GREETED ME tenderly and asked what I had bought. I opened the package and the sales slip fell out, right side up. It said \$247.36 plus tax. . . .



rabbits this day. Charlie and Wilmer would be bringing their beagles and we would all have a lot of fun.

Charlie and Wilmer arrived eventually, we boarded the hunting express, and the beagles had a lot of fun. Seven dogs took turns licking my face, eating my lunch and fighting to determine who would be president. After giving up on attempts to open the coffee jug, they all crawled into my lap and the ride to the hunting grounds became uneventful except for one dog whose stomach disagreed with B.L.T.'s.

Brilliant Thought

As we crawled out from under the dogs and began assembling, Charlie had a brilliant thought. "Whatinblazes is this guy wearing a camouflage outfit for? Someone might shoot the silly slob; he looks like a pine tree forest." Little did I fully appreciate the significance of his thinking. "I hope all you guys have signed your licenses," he added.

A cold chill ran up and down my spine and settled about the area of my game pocket.

"License?" I asked. "I bought everything but a license."

"You what?" Harvey asked.

"You mean you don't have a license?" Wilmer asked.

"How stupid can you get?" Charlie asked.

I soon learned how stupid I could get from the ensuing discussion of my intelligence quotient. It took me an hour or so to drive to town and get a license. When I got back, Harvey advised, "You can chase out the rabbits for us. It'll be good experience for you." The others agreed.

I chased out rabbits. I couldn't see them but I knew from the sounds of howling beagles, shotgun blasts, and shouts of "I got him" that all was going well. I was pleased with the thought that all this was good for my complexion until I heard a nearby blast and felt a stinging sensation in the southern area of my brush pants

while I was heading directly north.

"Whereinblazes are you?" Harvey yelled. I can't see you for the briars and that darned camouflage suit. Make some noise so no one shoots you."

I tried to be polite. "I believe somebody has," I offered in my friendliest tones.

Outside the brush patch, with my pants at half mast, I was reassured that my wounds weren't fatal. In fact, it was agreed by all that I was still capable of chasing out rabbits for the balance of the day. All in all, the day was considered a success. Wilmer had four rabbits, Charlie had three rabbits, Harvey had two rabbits and a woodcock, and I had 22 pellets.

A few nights later, Harvey handed me his glass and asked, "Where you buying these nuts, ol' buddy? I got hold of a filbert by mistake and it was stale. Better watch it or I'm not eating your nuts anymore. A stale nut can louse up a guy for a couple of days." I couldn't help thinking that 22 pellets, a doctor's bill and a new pair of brush pants with 22 holes in them can also louse up a couple of days.

"Now, this weekend, we're going into some good pheasant territory. We know a farmer who says he has so many birds on his land that, if you threw in a pheasant, the rest of the birds would have to move over. Howsabout that, ol' buddy?"

It all sounded like fun. So much fun, in fact, that I almost forgot the Saturday before.

"Yessir, pal, you will really learn some things this weekend." Harvey picked out a few more cashews.

I did learn some things the following weekend. I learned that four bird dogs smell exactly like seven beagles. I learned that bird dog stomachs don't agree with tongue sandwiches and horseradish. I also learned that a license entitles you to shoot pheasants but doesn't guarantee a thing. The gun I had purchased had a tricky little mechanism that operated with a flick of the finger. This determined whether you fired a shotgun shell or a rifle



OUTSIDE THE BRUSH PATCH, I was reassured that my wounds weren't fatal. In fact, it was agreed I could still chase out rabbits.

bullet. A ringneck ran out and stopped directly in front of me, offering the opportunity of taking deliberate aim. I pulled the trigger and heard a dull "click." By the time I had unflipped the flipper, the bird was gone. My friends helped by handling the gun individually and telling me that now all was well. Another bird ran out and stopped. Again, I clicked and unflipped, but too late. The next two birds went out high, wide, and handsome, and I couldn't find them in the scope.

The day was a success for most of us. The dogs had had a good time, Wilmer had shot two pheasants and a rabbit, Charlie had shot two rabbits and a pheasant, Harvey had shot the breeze, and I had shot two "clicks." The day in the field had been fun for all of us except Big Red, an Irish setter. As I slipped off my right boot on the way home, he upchucked with perfect accuracy. I wore the left one the rest of the way.

A few nights later, Harvey dropped

a few pearls of wisdom. "What you need is an autoloader for upland game. You can get a good one for a couple hundred," he explained.

That payday, I got a good one for a couple hundred, plus the pleasure of meeting Appleby. He looked like an Appleby should; he was about five feet tall, five feet wide, and had no knees. While he was wrapping my purchase, I wondered how he sat down if he didn't have knees, and why I wanted to shoot anything so badly that I was spending two hundred and forty-seven dollars and fifty cents, plus tax, plus another trip to the bank.

My wife viewed the gun with an expert eye and asked a very technical question.

"How much?"

When I told her, she displayed her mathematical wizardry by equating my purchase to 75 10-pound turkeys at 33 cents a pound at the supermarket. She also mentioned that the supermarket smart-alec manager had told her that the limit was one turkey

per year for each licensed hunter.

It didn't really matter about the turkey hunt we had planned for the following Saturday. My boss asked a favor. He asked me to work. I asked him if I could hunt. We compromised. I worked.

A week later, Harvey was back. "Boy," he said, "do we have a good thing going for us this weekend! We have a place where a big bear comes down and visits every morning for breakfast. Bear season opens this coming week and we're going after them. You can go along but you'll have to get a big bore." I was getting the feeling that I had a big bore in Harvey but I listened further.

"Better get yourself a 300 Magnum for these babies, they don't come easily," helpful Harvey pointed out.

I decided that 300 Magnums don't come too easily either, as I withdrew one hundred seventy-nine dollars and fifty cents, plus tax, from my famished bank account. I felt a little let down by the fact that, for that money, neither Farnsworth nor Appleby waited on me. The young man who tied up the box stated that he would surely like to go along but that he could not afford a gun of the quality I chose.

No Freezer

My wife later advised me that I could not afford a gun of the quality I had chosen. I explained that she would change her mind when I filled the freezer full of bear meat for the winter. She pointed out that we didn't have a freezer and that the local appliance store was running a sale on freezers for exactly one hundred and seventy-nine dollars and fifty cents, plus tax.

Harvey placed me on a stump the following Saturday. As I sat there waiting for a big bruin, I noticed many things, but I didn't notice any bears. Harvey didn't notice any bears. Wilmer didn't notice any bears. Charlie did find a copy of an old magazine with a good article entitled, "How to

Shoot a Big Brown Bear in Alaska."

A week later, Harvey became aglow. He almost passed up the nut bowl in his exuberance. "Ol' buddy, this is it. Buck season opens next Monday. Tell that boss of yours that you don't care how much he throws his weight around, you're going hunting with your pals. Here's the story. Wilmer knows where a 16-point buck comes down for a drink every morning. We've decided to put you on the trail and there'll be nothing to it. There you'll sit, the big buck will walk into you and 'Bango'—a trophy over the fireplace."

I poured out another pound of cashews. I looked at the fireplace. The cast-iron peacock looked pretty insignificant compared to a hat rack with 16 points hanging there. My wife would be proud of me whenever we had guests and I told the story of how I shot such a trophy. I could also have his feet mounted to hold a couple of my newly acquired firearms.

Harvey interrupted my thoughts with, "You'll need some insulated underwear, a red woolen hunting coat and pants, a couple of hand warmers and a blaze-orange vest. There's a cold front moving in and you'd better bundle up."

Farnsworth and Appleby had me pretty well prepared for the cold front until I told my wife that my latest purchase had cost ninety-two dollars and thirty cents, including tax. The cold front moved into our living room. I figured things would warm up when I came home with 150 pounds of delicious venison.

As I sat on the trail, wondering if my boss would do what I told him if he didn't like my taking a day off, I heard a stealthy sound behind me. I peered around the tree I sat against. The carefully chosen footsteps came closer and closer. I knew that something was about to appear. With heart pounding, I waited and a large head poked its way out of the thicket. It was large-headed Harvey. I put my gun down.

"See anything?" he asked. I answered in the negative and he went stomping down the trail.

Soon thereafter, another sound caught my attention. It was the cracking of a twig. I waited patiently and then there it was again, another cracking of a twig. Then there was the cracking of a limb, a big one. I knew that this was it, the big fellow. It was; big fellow Charlie stomped out.

"See anything," he asked.

"Only Harvey," I answered. He went down the trail.

I heard several shots in the distance and wondered how it felt to those who were bagging their bucks. I wondered now it would feel to be out of work. I wondered if it would snow.

My thoughts were again interrupted. This time there could be no mistake. Something was startled and coming my way in a hurry. I prepared for the big moment. With rifle ready, the startled one broke out right in front of me and stood in the middle of the trail. Startled Wilmer stammered, "There's a pot hunter sittin' on every stump in there. A guy could get his ears shot off. I'm gettin' outta here. Let's go home."

The hunting season is over now and all is well as I sit here by the fire. As well, that is, as can be expected for a man out of work with a lot of bills and a wife working night shift. Farnsworth and Appleby wouldn't take the guns

back and I told Harvey what he could do with his deal of 25 cents on the dollar for my equipment. The snow is falling outside, and the cast-iron peacock doesn't look too bad over the mantel. I wish I had a freezer and 75 turkeys at 33 cents a pound.

I'll figure out some solution to my problems and there will be a happy ending. Now, let's see, I could call my boss and tell him that I have a silver plate in my head from flying shrapnel, that I am cured now and I can probably get a second mortgage on the house. With a little luck, I can—

Excuse me a moment, there's someone at the front door. I wonder who could be calling on a night like this.

"Hi, ol' buddy. Charlie, Wilmer, and I have a fox hunting trip planned for next weekend. You're driving. We're borrowing Hank Gentsch's foxhounds, six of them, and they're great. Take a lot of lunch and a gallon of coffee. Now let's see, you'll need an electronic fox call, get the rabbit record, a varmint rifle, better get a 264 Magnum. Shouldn't cost you more than a couple hundred for the whole outfit. Be ready about—"

I slammed the door. "Go, Harvey Havermyer, go! And don't come back *no more!*" I went to the kitchen and threw out the stale nuts, poured myself a tall one over ice, and returned to the flickering flames.

Now there's a happy ending.

Pennsylvania Trappers Harvest 3317 Beavers

Pennsylvania trappers harvested 3317 beavers during the February 7-March season this year, according to figures compiled by the Game Commission. The total is lower than the 4265 taken last year. Significantly lower prices paid for this year's beaver pelts and severe winter which produced much tougher trapping conditions are believed responsible for the lower catch.

Although Pennsylvania's prime beaver range is in the northern part of the state, the flat-tails were taken in 48 counties this year. Wayne County was the top beaver producer, yielding 376 pelts. Crawford was second with 333, Tusquehanna was third with 225, and Erie was fourth with 210. This was the third time in the past four years that Wayne was the top producer. Crawford was last year's leader.

Annual Antlers

By Earl V. Wise, Jr., and Keith C. Schuyler

Photos by Earl V. Wise, Jr.



AN ADULT PENNSYLVANIA whitetail buck's antlers become visible in May, have grown about as shown here in June, reach full size in August, lose their velvet in October and usually are shed in January.

"HE CERTAINLY is magnificent!" the lady exclaimed.

"Yeah. And look at those horns," her portly husband agreed, crosshairs impressing themselves on both his eyeballs.

The convertible containing two couples had slid to a halt at the appearance of a big white-tailed buck silhouetted against the skyline on a jagged outcropping of shale just above the highway. Both men were seasonal hunters, of a sort, and they felt both awed and empty at the sight. The buck was in velvet.

"Gosh," the second man said, "he must be a real old one. Looks like he has ten or twelve points."

Portly grinned. "If he gets much older, his horns will grow so big he won't be able to lift his head." He ehucked at his own humor. Horns never got *that* big even if they did grow a little more each year.

"It'll take him awhile to rub off all that velvet." Portly turned with difficulty to face his friend in the back seat. "I seen a buck rub once," he added authoritatively.

Not to be outdone, Back Seat offered, "You wonder how he keeps his horns so many years after jabbing them into other deers when they fight."

Mrs. Back Seat sneezed. "Would you mind pointing that cigar the other way? My asthma, you know."

"Sure, sure," Portly obliged, turning back and flipping the cigar into the underbrush. "Oh . . . you scared him away!"

The buck bounded lightly back into the scrub oak. The convertible with its four occupants and their many misconceptions went the other way.

The previous little vignette is contrived, of course, but it does point up

a number of common fallacies about the head adornment of male members of the deer family. You will readily recognize some of the more glaring errors committed by the foursome in their conversation (not counting the fact that Mr. Portly should have used his ashtray). However, there are some lesser known facts about antlers that should be familiar to all deer hunters and students of nature. But let's go back and pick out the obvious mistakes.

Only the first statement was absolutely correct. (Mrs. Back Seat probably lied about her asthma.) A buck deer is a magnificent creature.

No Deer Has Horns

However, no deer has horns. The head adornment of deer is known technically as antlers and never anything else. In fact, whereas horn is for the most part merely a modification of hair encasing a bony core, antlers are an outgrowth of true bone. Mr. Portly was wrong the first time he opened his mouth after his initial, "Yeah."

Mr. Back Seat didn't do any better. Since the implication here was that the deer had a huge set of antlers, it would almost certainly be a relatively young buck in the prime of life, unlikely "a real old one." Antler growth is determined primarily by food supply. However, the age of the animal and its hereditary background also enter the picture. Even in areas where the food is good, really old bucks tend to have scrubby antlers. White-tailed bucks come into their prime about their third and fourth years. They continue to drive adrenalin through the veins of trophy hunters for four or five years more, before old age takes its toll. Whether it is inability to assimilate proper nutrition and convert it into antler growth, slowdown in activity, or simply a fact of life, really old deer do not necessarily have the trophy racks they sported in their prime.

Also, by implication, Mr. Back Seat mentioned the number of points as



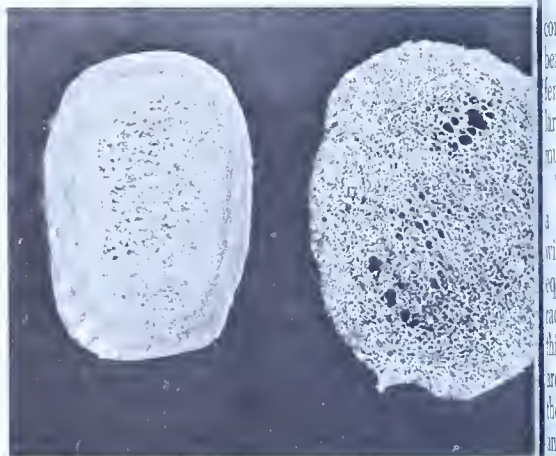
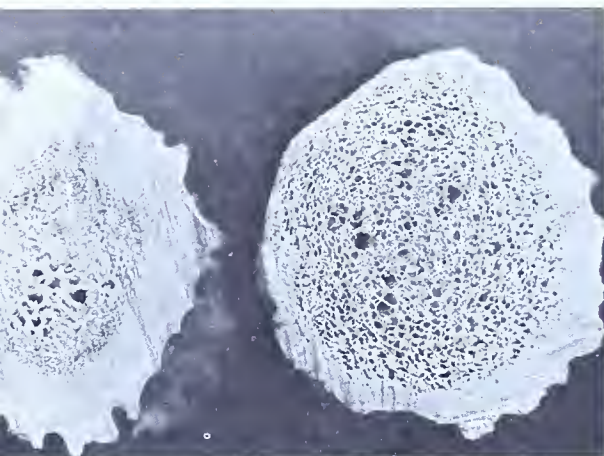
THIS WHITETAIL BUCK was photographed in late August. His antlers are still in velvet, but full growth has been reached.

evidence that the deer was old. Not necessarily so. The total of tines is no clue to the animal's true age.

Depending largely on diet, a yearling buck can have spikes, or a "Y" rack. But, it is not at all unusual for this youngster to have 6 to 8 points when he is a mere 18 months of age. He will not, however, have the massive beam diameter at this age which is common to bucks living in areas of good food when they reach their third year or more.

If, as is often supposed, a deer added a point to each antler each year, some of the freak, or non-typical, racks would indicate a deer of 25 and more years of age! Few whitetails ever exceed 12 years of age—even where they are not hunted. Some of the greatest typical whitetail trophies ever recorded, as scored by the Boone and Crockett system, have no more than 12 total antler points.

Mr. Portly thought he was making a clever joke about the antlers getting so big that the buck wouldn't be able to raise its head. He just supposed that at some point the rack would stop growing. What he didn't know, and



CROSS SECTIONS OF DEER ANTLEERS show differences between fully developed one (on left in each photo) and one in velvet. Note hard, dense outer section on developed antlers. Sample on left taken near skull, other at about antlers' mid-points.

what some hunters still do not realize, is that the buck grows a brand-new set of antlers each year. This is an amazing enough feat for a white-tailed deer (*Odocoileus virginianus*), but it is much more remarkable when it is considered that the massive antlers of both elk and moose are also traded in annually.

Buck Rub

The buck rub that Mr. Portly "seen once" was not made by a buck in full velvet. When a buck first starts shedding the velvetlike coating on his new antlers, they are much too tender to rub hard enough to remove bark from a tree. As the nourishing blood supply diminishes, the velvet dries and works itself off gradually with considerable encouragement from the deer, particularly toward the latter stages of shedding. Meanwhile, he goes around looking somewhat less than his best as bloody shreds and clods of dried-up velvet cling to his new antlers.

It is after the velvet is gone that the buck works to shine and sharpen his new adornment. He will attack trees and bushes with gusto. Current thinking suggests that this is a sign of territorialism, a method of announcing his presence to other deer in the area.

Mr. Back Seat, while supporting the fallacy of continued antler retention

advanced by Mr. Portly, was also toying with reality when he talked about, "jabbing them into other deers when they fight."

There is no doubt that some "jabbing" is done, at times with fatal results. But the whitetail's normal approach to combat is somewhat different than is often supposed. Much of the fighting consists of pushing and twisting with the antlers against antlers of the antagonist. Each tries to throw the other. Occasionally, two bucks will interlock antlers. One or both may starve to death. If one is killed in such a fight, it is the winner that suffers a much worse fate.

If deer did frequently ram their antlers into their enemies, the woods would be full of dead bucks on the first day of the hunting season, for the mating, or rutting, season is just prior to the gunning season in most states.

We're not trying to rub it into Mr. Portly and Mr. Back Seat, but there is an outside chance that the deer they saw wasn't even a buck! Mother Nature gets a little careless sometimes and a female deer comes up with a masculine looking set of antlers. It comes as no surprise, however, that lady deer almost always wear their antlers in the velvet. Such deer are seldom able to reproduce, so there is no danger that the practice will be-

come widespread among most members of the deer family. Nevertheless, females of the reindeer family regularly carry antlers, albeit they are much smaller than those of the bulls.

The classic adornment of a buck is a perfectly balanced pair of antlers with points that match on beams of equal length and circumference. Such racks are so rare that anything close to this is considered a real trophy. There are many factors which work against the probability of nearly perfectly balanced racks.

Aside from nature's way of doing things, the deer itself may foul up its pride before it properly develops. A misplaced kick at a fly can deform an antler when it is in the early stages of development. Young bucks in early velvet frequently butt heads in fun and run the risk of ruining one or both antlers for that season. One of the potentially finest racks to grow on a Pennsylvania deer had one side that looked as though the animal had slept on it, or it stood for a long time in a strong wind. It is believed by some that certain malformations in antlers can be tied to a physical disorder. Sometimes one side will develop points naturally while the other grows a long spike. From racks normally seen on mounted deer heads, it would appear that all deer have fine antlers. However, those displayed are usually preserved because they are out of the ordinary.

The new antler, which first appears as a knob in the spring, is covered by a labyrinth of blood vessels in the familiar mossy-looking skin known as velvet. This carries the calcium and other minerals needed to build a branch of spongelike bone. At first the antler is quite sensitive to touch and it is easily damaged. When the outside velvet finally peels off, it leaves an extremely hard, bony adornment that has become favored for knife handles and other utensils because of its strength and durability.

It is probably because of this seemingly impervious quality that it is



BASE OF FULLY developed antler attached to skull shows where growth begins and where separation is made when antler is dropped.

sometimes assumed that deer do not drop their antlers. It is rare to find even a part of an antler in the woods during autumn when most hunters again return to the habitat of deer. Surely, it must be reasoned, if deer dropped their antlers the forest floor would be covered with them.

And so it would be if it were not for the countless creatures which feed upon deer antlers for the rich supply of minerals available. Mice, porcupines, skunks, and other animals including the deer themselves soon dispose of the antlers after they are dropped by their owners.

It can be reasonably argued that a deer is a deer, and the antlers which are dropped are mere appendages. Yet it is seldom that a female deer head is mounted alone as a trophy. There is something about a set of antlers aside from its inherent beauty and symmetry that makes us want to preserve it as the sign of a successful hunt. Maybe it's because, amid the uncertainties of today, we need this evidence that, at a special time and place, this woodland creature lifted us for a moment above all else.



To Walk a Crooked Path

By Susan M. Pajak

THERE ARE three significant walking situations you will encounter when you challenge the big woods of Pennsylvania: 1) ascending a mountain, 2) descending a mountain and, perhaps, 3) crossing a stream. To flaunt even the slightest precautionary measure could very well bring about a body-bruising accident. And all because you were too anxious about the impending hunt to watch where you were going.

The most important fact to keep in mind is that the decision to climb a mountain in the first place is strictly yours. Let no one harass or force you to climb a mountain if you feel that it would be "too much." Many a deer has been taken in an open field.

Once you have ascertained that you can make the climb you should realize that you cannot ascend in a straight path to the top. It's unnatural. You should consider seriously ascending on an angle; that is, beginning at one point and following an imaginary slanting line to the top.

All it takes is one trip up and down a mountain to initiate the novice hunter in the ritual of acquiring his "mountain legs." So before venturing out this year check over the following 10-point program. It is guaranteed to make your upcoming hunts more enjoyable adventures.

1. *Always note weather conditions:* Rain, snow, etc., mean reduced visibility and challenging walking situations. Be forewarned.

2. *Leaves on the ground:* When wet or snow-covered, walking conditions are more like skating conditions. It's usually slip and slide all the way.

3. *Rocks, fallen tree limbs, and ground debris:* Avoid stepping on these objects. A hasty footstep on a pine cone, for example, could send you tumbling.

4. *Hunting clothes:* Do not carry any clothing; wear it. Both hands are needed to maintain balance during the climb. The rifle should be either slung onto your back or carried as per instructions for those new sling aids. If you become too warm, you're climbing much too fast.

5. *Move slowly:* A step at a time will do nicely. The deer didn't promise to be there at 7:00 a.m. so why over-exert yourself trying to meet a one-sided deadline? Start out earlier.

6. *Ascend and descend on a slant to the terrain:* When climbing lean forward, when descending you will notice that you are leaning backward a little. This is natural.

7. *Rest at intervals:* When traveling either up or down it is only common sense to stop and rest every so many yards. As a bonus, you just may catch a deer coming through.

8. *Trees:* Employ small trees to further aid your climbing by pulling yourself upward. When going down, use them to break the momentum of plunging.

9. *Boots:* Use those heavy boots on your feet to dig into the ground surface for a firmer foothold. Don't slide along.

10. *Control anxiety:* Although not directly related to the theme of the article, it is reiterated for the new hunter that anxiety, or "buck fever," is a true feeling. Control your anxiety when: 1) the trophy is spotted, 2) you prepare to take the trophy, and 3) after it is yours.

In conclusion, Mother Nature molded the whole out-of-doors with shapely forms. You cannot walk for long in a straight line without bumping into something. So why try? Walk a crooked path . . . you'll have a better day for it. After all, who ever saw a straight deer trail?



THE HUNTER should consider how much contrast his clothing will make with his background. Dark jacket here is too conspicuous against light colored bank.

"THE TROUBLE with hunters," an old friend once told me, "is that they have the capacity to *think*."

This statement takes some thinking about before one understands. What he meant was that animals are attuned by ancient instincts to the infinite detail of their habitats. The hunter who pursues the quarry reasons intricately, and is thereby all too often defeated in his purpose by the simplicity of animal instinct.

Let us take as an example a deer that lives in a large woodlot on a Pennsylvania farm. The deer hears the rooster crow, the dog bark, the sounds of engines. It sees the landowner criss-cross his fields, scents woodsmoke or odors of cooking foods that waft from a kitchen door and are whisked away

See Yourself as Game Sees You!

By Byron W. Dalrymple

over the woods. None of these disturbs the deer. All are a part of the surroundings it has known since it was born here.

Deer season comes, and a hunter who considers himself exceedingly crafty goes into the most intimate habitat of the deer. Beside a trail in the woodlot the hunter drapes a camouflage net across some bushes. He hides behind it. The breeze is just right to keep his scent from the deer as it comes back along this trail at dawn. The hunter is utterly still, completely hidden. Face close to the net, he can see through it to detect any movement on the trail.

The breeze gently tugs one end of the net. It flaps soundlessly. But of course, since it is camouflage netting, it blends perfectly with the surroundings. Presently the deer comes along the trail. The fundamental difference between the thinking, reasoning hunter who has his technique so neatly planned, and the deer that is moti-

vated by instinct, is that the deer is constantly alert whereas the hunter can sustain full alertness only for short periods. Indeed, if he were endlessly on full alert, his mental processes would wear so thin he would soon be in an institution, unable to relax.

Now then, this deer has never been shot at. No man has ever harmed it in any way. Thus it is not "thinking" to itself, "I have to be aware of a man with a gun because deer season is open." In fact, the deer does not see, smell or hear the danger. But it has passed this way innumerable times before. If the man drove into his yard and there was a camouflage net with one end flapping gently in the breeze hung across his decorative shrubs, he would become *instinctively* aware of it because of its motion before the reasoning process in his brain began to wonder what it was and why it was there.

So the deer, seeing the net only because attention is drawn by the motion, stops, stares. It knows every foot of this woodlot, and this motion, this "thing," does not belong in the pattern. The deer doesn't do any wondering about *what* it is. The deer is a wild animal living by set-trigger instincts. It snorts and bolts, vanishing among the trees while the exasperated hunter mutters and wonders what he could possibly have done wrong.

Wrong Viewpoint

His error was simply that he reasoned everything out from *his* viewpoint but not once did he see himself from the starkly simple viewpoint of his prey. This is indeed the greatest single hurdle that confronts most modern-day hunters.

Early man, dependent upon animals for food and equipped with primitive weapons, was far better at the hunting game because he had to be. Also, he was in far closer communion with the creatures he hunted. Animals not only fed and clothed him but were related to his religions, his fears, his pleasures, his legends. Primitive peoples, if you

please, "thought like animals." They, like their quarry, were intricately attuned to their wilderness habitats; they saw themselves plainly as the game saw them—and because of this they were eminently successful in their hunting.

It amuses me to recall an old duffer I knew as a kid who showed me how to fool ducks. He wore rather dirty, drab clothes, not purposefully but simply because these were all he had. He'd go out to a pond where he knew ducks were used to coming in, daub some mud on his face and hands, and sprawl flat on his back among some weathered fence rails scattered on the bank. His legs and arms just fell loosely. His outline was not symmetrical and was broken up in the criss-cross of gray rails. I watched once from distant bushes as a flock of ducks circled. He was not very much of a sport. He let them settle to the surface

WHEN STILL-HUNTING an area, it sometimes helps to move along a stream so that the water's sound covers the hunter's inevitable noises.



and bunch up. Then he suddenly sat up, collected three with one shot on the water and another in the air as they flushed. Not sporting, maybe, but he was shooting to eat.

There are so many errors young hunters make, and just as many made by their elders, in their attempts to hide from the game they are after. They wish to get close enough to it, or get it close enough to them, for a telling shot. I have often reflected that this matter of seeing yourself as the game sees you, of how to keep yourself hidden, is just possibly the most intriguing facet of hunting all those species that require such tactics. Lack of astuteness in this art is responsible for more failures than any other single factor.

Last deer season, for example, I huddled in a clump of bushes and scanned a far ridge with my binocular. The day was still, which makes it difficult for deer to locate hunters by scent. The moment I put the glass to my eyes I saw a hunter. He sat on a stump spang atop the distant ridge. By doing so, of course, he had a wonderful view of the entire valley stretching away from the foot of the ridge. A short distance away from him was his partner, in an old leafless snag. Apparently the man had got up a few feet into it so he would have a better view.

Skylined

The very obvious consideration these hunters had overlooked was that the deer they hoped to see in the valley could not help seeing them on the ridge. They were skyline'd, even from where I sat, and from lower down they were certain to be doubly obvious. I actually watched three deer come off that ridge some distance to the right of where these men were stationed. On the edge of the timber the deer paused and looked. Each stared long at the silhouetted figures on the hilltop. The deer were not unduly disturbed. They simply set a course away from the hunters. Neither

hunter on his lookout ever knew a deer was in the vicinity, yet the original course of the deer would have brought them into easy range.

It seems any hunter would realize that he should take a position *below* any ridgetop from which he wishes to scan a valley. Yet many do not. They fail to consider the viewing angle of the game.

The problem of being silhouetted doesn't occur only on the skyline. A hunter who sits against a light-colored dirt or rock bank while wearing a dark outfit—or any other color which doesn't blend into the background — will be a strange, non-belonging element to wildlife. As such, the hunter will attract attention, for his outline is sharp and it resembles nothing else in the animal's experience. If he does not move and isn't winded, a deer might not be frightened by his presence, but he will be noticed. And an old buck can stand absolutely motionless, watching, for a far longer period than anyone of my acquaintance can go without moving somehow, and that's when said deer vanishes, either as a puff of fog or an explosion—whichever will be more upsetting to the hunter.

Thus it behooves a trail watcher, or a still-hunter who passes at intervals, to pick a spot in which his outline will be shielded or broken up by a tree, bushes or other natural elements. The color of his clothing doesn't matter from the deer's standpoint, as its eyes are incapable of seeing anything except shades of gray—which explains why fluorescent clothing, so helpful from the safety angle because it catches another hunter's eye so quickly, means nothing significant to a deer. But never forget that your slightest motion can be picked up at a great distance.

Consider now the stalker who does his sneak very properly, keeping trees or bushes between himself and his game—deer, turkey, squirrel. Then, getting near, he just cannot resist having a look. So, standing, he peers around a large tree trunk. If any sight



OCCASIONALLY A HUNTER WILL pause alongside a tree, where he is plainly visible. Sitting in front of it and taking advantage of available shadows makes him almost invisible to deer.

on earth will terrify a wild creature more than a human face suddenly popping from behind a tree or bush, I have yet to hear of it. The hunter with true primitive instincts will remove his hat if it is large, or pull his cap low over his eyes, get down flat on the ground and, gingerly and slowly, ease out far enough to take in a one-eye size-up of his situation. Even then it will be better if he has a small leafy branch or some natural object such as a fork of dead brush to hold before his face.

There are isolated occasions, usually when one must use such a ruse for lack of cover or because of breeze direction, when a bold approach is called for. I recall once having spotted across an opening a buck bedded in shadows, but quite distant. It was screened by twigs so a shot was chancey. I was certain if my scent wafted to the animal it would bolt. By approaching in a circle to stay in timber I would almost certainly cross the wind. There was another course, however, but it entailed crossing an opening where I'd be in plain sight. The wind would be right, though, and so I decided to step into the opening, then walked on an angle boldly across, whistling and making no effort to be quiet.

My angle led me on what I hoped

would seem to the deer a course away from it. I purposely did not look in the direction where I hoped the buck would still be bedded and watching. Finally I entered the cover again. Now I sat down and waited a full half-hour. From here it was impossible to see the buck, so I had to assume it just might have stayed in its bed. I made a long circle, got the breeze right, prowled in, spotted the buck. It was still looking out into the opening and I concluded my hunt then and there.

Certainly this technique is not going to work often. The best chance is with a deer in its bed. With turkeys I doubt it would ever work. They'd drift off the moment the hunter was sighted. But in the above case it was a matter of "hiding" by showing myself, and of seeing myself and my actions through the eyes of the buck.

Not Always Inconspicuous

Thus, under the best of conditions even the thoughtful and observant hunter cannot always be constantly and totally inconspicuous. However, the basis for obscurity most commonly is the breaking up of distinct form and outline. This is especially important in its relation to the level of sight line of any given creature. Deer, for example, do not habitually look up or down. They look in a line on their own level

of height, unless there is an obvious reason to look elsewhere, as in the case of the hunters skylined on a ridge-top. Thus, a deer hunter in a tree, legal procedure in some states though not all, or a deer hunter hunkered close to or flat on the ground, is not as readily detected as one on a level with the deer. A wild turkey, on the other hand, will quickly spot the close-to-ground hunter but is not likely to see the hunter in a tree. Conversely, the hunter in either location, and especially the one close to the ground, is more likely to spot the turkey. A standing hunter is too high, at least in close cover. However, a rule may be set up that the more on a level with the animal's gaze the hunter is, the more scattered and broken his outline must be to avoid detection.

Turkeys See Colors

Turkeys—all birds—see colors. Their eyes are equipped with the rods and cones that relay color sensitivity to the brain. Whether or not the color, as of a hunting jacket, is meaningful depends on how the lines are broken up, how much contrast there is, and whether or not a blob of color *moves*. Turkey hunters don't need to be told that no wild turkey will tolerate hunter movement. Yet, a hunter with a cam-

ouflage head net, and wearing clothing that fairly well matches in tone his surroundings, one sitting so branches or tree trunks or a log breaks up his human contour lines, can have a turkey practically in his lap if he remains immobile.

I've often crawled into a crisscross of limbs from a fallen snag so that shadows lay upon me. Granted, one's face may be spotted. But the general jumble of opposed and non-symmetrical lines makes identification of an immobile human difficult for game, just as lines of game animals under similar conditions are hard for hunters to pick out. But where an astute hunter does have an advantage is that he learns—or should—to look for a *part* of a deer, or turkey, or squirrel, whereas (excepting a face in the full open) animals don't look for part of a hunter and indeed sometimes don't recognize a portion of a human figure as long as they don't see it all.

An ancient trick, undoubtedly used for centuries by huntsmen, is to creep up behind some obstruction, such as a log, or to the crest of a knoll, and then, when peering over, to raise a branch before the face. Done very slowly and with even, never jerky, motions, one may often actually get into shooting position with a game

IT ISN'T ALWAYS POSSIBLE to hunt ducks from a blind, but sitting motionless among natural growth sometimes is enough concealment.



animal in close range, then suddenly drop the branch and fire. Again, the face has been covered or at least its contours broken from the viewing point of the game.

A further intriguing area of study in hiding from game is the consideration of shadows and reflections. One fall I spent several different afternoons sitting on a low bluff above a waterhole where deer came to drink. As it happened I was not hunting with a gun, but with a camera. I was after photos of deer drinking, heads down to the water. On two occasions I had nervous whitetails right there, seemingly as relaxed as a whitetail ever is. The deer put its head down to the surface of the pool and as it did so, I eased forward to focus my telephoto lens. Instantly the deer wheeled and plunged away in desperate flight.

After the second such occurrence I brought a friend with me and had him reenact what I had done, while I "played deer" down below. The difficulty was instantly clear. My reflection had moved in the pool, seeming to come right up into the animal's face! Several hunters have since told me that they have experienced this same exasperation.

Shadows Surefire Scare

Shadows can be just as surefire in putting game to flight. Once on a goose hunt late in the afternoon I spent an agonizing half-hour trying to crawl into shooting range. I had to negotiate a knoll but there were trees to give some cover. What I had failed to plan on, however, was that with the sun behind me and at a low angle my shadow reached for many yards. And, it swept across the area, whereas tree shadows stood still. The geese panicked and were just a little too far for me to try.

This is a rather common oversight when moving in a deer woods early or late in the day. Or for that matter when after turkeys or squirrels or any other game. I've long advocated hunting as much as possible for such game



A BIG TREE can conceal hunter completely, but when he wants to look around it, he should do so cautiously with hat removed—not as in this "horrible example."

as deer at times of day when the sun will be in *their* eyes. It is just as difficult for the animal to look against the bright light as for a hunter to do likewise. But one must be aware of his long shadow.

As an example, one of my sons, following my instructions to the letter, tried to make a sneak on a deer a couple of years ago by staying in the edge of a thin strip of timber. The sun was on his left shoulder. The deer was in the open and a bit higher up on a circle of the slope. After the boy had launched the stalk it suddenly dawned on me that the thin stand of timber, covering him well enough, had corridor after corridor of bright light streaming through. As he crossed each, his shadow seemed to leap across the open grass to the right, a dark shadow forty feet "tall." The buck got its eye glued to that movement and didn't wait around to make identification!

Of course there is a large area of technique to be studied also in the re-

lation of *sounds* to hiding. A prowling hunter does not sound like a scratching turkey, a leaf-rustling squirrel, or a buck walking lightly. A horse with a bell on it can walk through a woodlot where deer stand idly and not one will spook. A hunter, making not a tenth of the noise, will be spotted by sound above and instantly trigger fear in the wildlife.

There is not space here to go into all these details. But to hint broadly at what cures are feasible for the sound problem, think carefully about the clothing you wear. Wool is silent, poplin, nylon are noisy. Do you have one boot that squeaks? The squeak may not spook game, but it will *alert* any creature and this leads to close visual scrutiny of the sound source. A flowing stream that burbles noisily may impair your hearing to some extent. But it works the other way, too. Quietly hunting along stream courses can sometimes even bring you within gun range of a gobbler wholly unaware—and that is the ultimate.

More inept sounds emanate from trail-watchers, however, than from any others. A noisy walker expects to spook game—or he should. But a noisy sitter is an abomination to himself and to his sitting companion, if any.

How many times have you walked into the woods, selected a stand, and just plunked yourself down? Sure it's a good stand. But are there dry leaves

beneath your boots? Is there a small stick, perhaps hidden by wet leaves, that will pop when you put weight on it? Does a branch whisper a warning as it brushes your hat or cap when you turn your head to see that buck walking by? Look before you sit! Clean up the place your boots will be planted. Get rid of twigs and branches that may give you away.

I used to be careless about this, too. Then one time at the head of a small, wooded draw where I just knew a big buck would come, I waited all one afternoon, patiently, quietly, until every muscle ached from sitting so still. Finally the buck appeared. It was as handsome a whitetail as I have ever seen. The buck momentarily turned its head away. Instantly and swiftly I raised my gun. Doing so, my sleeve caught one lone, dead, very stiff and brittle twig of pencil size. The twig cracked like a popgun. But in the silence it sounded to me—and I'm sure to the deer—like a cannon. The buck didn't even bother to look. It bolted. Oddly, I recall that I didn't hear the buck's big antlers snap a single twig!

So perhaps this dissertation may be helpful, may bring you success on occasion that you would have missed by lack of caution or by not listening to your deeply buried hunting instincts. Stand off at times and look at yourself as the game does. If you can't see a thing, great! But be sure!

Sixth Turkey Calling Contest

The sixth annual Pennsylvania State Turkey Calling Contest will be held August 22 at 11 a.m., EDT, at the Franklin County Fair. This contest, which is sponsored by the Franklin County Federated Sportsmen, provides hunters with an excellent opportunity to learn the different techniques of wild turkey calling. Everyone is eligible to compete in the contest except a caller who has won two years in succession; such winners are eligible after a one-year waiting period. In addition to the state championship, this year a separate category for out-of-state callers will also be conducted, with a trophy to be awarded the winner. There is no entry fee. Scoring is based on four calls—the pert, yelp, whistle and gobble. The fairground is located near Williamson on Route 995 about 12 miles southwest of Chambersburg.

A Look at Luck

By Albert G. Shimmel

THE STATEMENT, "He's a lucky one," is often used to characterize a sportsman who is consistently successful in the field. At times it expresses the pique of an individual that is less than satisfied with his own out-ing. Success has an admitted element of luck but it is only one of the many factors that are included in the equation.

Toby tags a buck with a regularity that marks him as a good woodsman. Last year the trophy that fell to his gun was unusual to say the least. The antler on one side was normal in every respect. The other side branched just above the head and there were two complete, evenly matched beams. From the front the head was to all intents and purposes a three-beamed buck with a total of 10 points. Luck sent him a trophy that is exceedingly unusual. Skill, woodcraft and proper timing made it his.

Never Catch a Glimpse

It is possible for the tyro sportsman to hunt through an area where game is abundant and never catch a glimpse of a single specimen. Game is familiar with its home grounds. Man is the interloper. In most cases animals are endowed with superior hearing and a sense of sight that is equal if not superior to our own. Our sense of smell is dull to nonexistent when compared to that of most animals. Even in the contest of intelligence versus instinct we often come out of the action a poor second. We are hard pressed to overcome our handicaps.

Proper timing is of utmost importance. Minutes — even seconds — often are the difference. I remember the embarrassment suffered by a hunting companion. We were working a remote area that was relatively free of hunters. My friend, not as familiar



AL SHIMMEL and son Glenn with a pair of bucks they downed in a scrub oak area. Knowing the acorns would lure deer, they hunted the right area to make their own luck on this December day.

with the terrain as I, was guarding a low saddle through which game traveled regularly. Below was a bench where deer fed on acorns and wild crab apples. Behind the saddle was a cutover with several windfalls that furnished perfect bedding grounds.

Two inches of soft new snow made still-hunting conditions as near ideal as could be found. I circled the bench and began to hunt slowly toward the spot where my friend watched. I had a glimpse of a good buck. He moved ahead, aware that I was following but apparently not unduly alarmed. For half an hour we played hide-and-seek

but he had more woods sense than I and kept out of harm's way. As we neared the big pine that was my companion's stand I was alert for his shot, but none came. The buck's tracks were imprinted in the snow not 20 yards from where my friend stood.

He grinned apologetically as he explained that urgent business had compelled him to leave his post for a few brief minutes. That had been his un-



CAREFULLY ASSEMBLED handloads, tuned to the rifle in which they'll be used, also are an important factor in a deer hunter's luck.

doing. During his absence the buck had passed by within easy range.

The fact that we bagged this same buck within the hour did little to alleviate his embarrassment.

Find where game is feeding and you have made a substantial beginning toward your good luck.

A few years ago the wild grapes failed to set fruit. Beechnuts were nonexistent. Acorns were scarce. We hunted in vain through grouse covers that in other years had yielded adequate sport. We gave up in disgust and decided to hunt the hill fields of an abandoned farm for rabbits. These fields covered a dozen acres of land that was fast returning to the wild. There were a number of decaying stumps around which grew clumps of sumac with a good crop of fruit. The

ground was carpeted with wintergreen that bore an abundance of red berries. Nearby were wild strawberry plants and clover. I believe that all the grouse in the country were concentrated here. A pair of grouse roared away toward the woods. We were so surprised that not a shot was fired. Did you ever have grouse shooting in the open where there was not a twig between gun and bird? Three of us filled limits in a short time and then walked up birds for the fun of seeing them fly. We counted 37 birds before the fields were empty. Later that same season I returned to find the birds had left the fields behind and they were budding among the aspens.

Late Frosts

Last season late frosts ruined the mast crop except for a narrow strip along the mountaintop above the 2000-foot elevation. Normally this is the least productive part of a prime deer range. At the base of the mountain is an established camp of veteran hunters. Year after year they take a half-dozen good bucks on the first day. Although they hunted hard in the vicinity of camp, they failed to score. The next day they moved three miles to the top of the mountain. Acorns littered the ground. The first drive netted three bucks. By the close of the third day they had taken their camp limit. Food made the difference.

Late frosts burned the ridge where my son and I hunt each season. By some miracle a patch of scrub oak escaped and bore an abundance of small, sweet acorns to form an island of plenty on an otherwise barren mountain.

We killed a pair of good bucks within an hour of each other by watching trails that led to this food supply. As we dressed out the second buck, another stood watching from a nearby thicket. It would have been an easy rifle shot. We found this food plot during a preseason scouting expedition.

A hunter with several bucks to his credit concluded that if his rifle was

The Problem Is **POLLUTION** ***Solve It!***

sighted in for 100 yards he could bag a deer at most ranges. His only chance that season was a buck that walked along the ridge opposite his stand. He fired several ineffectual shots before the buck crossed the crest and was hidden from view. The range was some 400 yards.

In his own words, "That buck haunted my dreams."

What did he do about it? He traded his 4X scope on an expensive 3-9X variable. He glass-bedded his fine 270, and then set about developing an accurate, long-range load. During the summer he burned several hundred rounds of ammunition and learned his rifle's capabilities at all ranges.

It would be a justification of his efforts to be permitted to report that he killed a trophy buck at extreme range the following season. The truth is that he dropped a 4-pointer on the run at 40 yards. The single shot went through the rib cage. This time, skill and familiarity with his rifle paid off in venison if not in complete satisfaction. But if his next shot is a long one, he'll be ready.

Woodcock Influx

Woodcock hunting is not consistently successful in covers where the gunner must depend on flight birds rather than the small stock of locally bred natives for his sport. The devotees of the woodcock have through study been able to predict an influx of birds and find excellent shooting even if it is limited to a few days at the most. During the open season they follow the weather reports with the same zeal that an investment broker studies the market trends. When a cold wave moves along the Canadian border, especially if it falls during the "light of the moon," they become as

nervous as a bridegroom before a wedding. They sort shells, examine their favorite smoothbore, and lay out their shooting gear. Next morning finds them at the edge of their favorite cover, waiting with what patience they can muster for shooting time to arrive. Covers that yesterday held a scant handful of scattered birds now hold dozens. The flight birds hold particularly well before a dog. Here is a case where luck is controlled by the weather.

We have found that when there is a drizzle of rain cockbirds lie close. Perhaps they hate to wet their fine plumage. Grouse seek the shelter of evergreens and allow a gunner a closer approach before flushing. Turkeys do not seem to answer a call as readily as on clear days. It is a known fact that sounds do not carry as far when the humidity is high.

Before a storm most game is on the move. Both birds and animals are nervous and restless. The deep-rooted instinct to feed and then find secure shelter is contagious. It even affects the human animal. Deer will be feeding at odd hours. Squirrels are more active and more noisy than usual. Wildfowl will be flying. The upland gunner could take a hint from the duck hunter and be in the field just before a storm. A barometer will often



Photo by Tom Schreffler

UNUSUAL THREE-BEAMED antlers taken by Toby Woods of West Decatur make a trophy of interest to all hunters. Luck had much to do with getting them.

forecast more than a change in the weather. Good hunting can be forecast in atmospheric changes.

Charley was acknowledged to be the best turkey hunter in a region where the birds were not plentiful. He was a quiet woodsman that spent most of his leisure time observing the big birds and studying their habits. To him they were an obsession. He fed the flocks in winter, knew where they nested in spring, protected the growing broods from predators during the summer and knew in the fall where their daily routine would bring them to feed.

He kept his own counsel and counted the fall hunting as a priceless

privilege. He earned the right to hunt. The gobbler that fell to his gun each fall was proof of his knowledge and skill. His envious friends had neither the time nor inclination to equal his results.

If you are not satisfied with the small adventure that a day of hunting is sure to bring then I suggest that you make a discreet inquiry among your intimate acquaintances. I am sure that you will uncover some individual who for a consideration will supply you with the left hind foot of a graveyard rabbit that met its fate during the dark of the moon. If that talisman does not produce the desired result . . . consider yourself beyond help.

Book Review . . .

Whitetail Fundamentals and Fine Points

Keystone hunters know, perhaps better than anyone else, that the white-tailed deer is a truly great game animal. It has excellent senses, intelligence, and fine physical attributes. It lures some 750,000 Pennsylvanians into the woods each December. Many of these hunters are successful; more aren't. Those who consistently come home empty-handed can profit from this book, and even those who average well on deer will learn something, for this longtime whitetail hunter has put down on paper, in a highly readable style, a great deal of information on ways of bagging a buck. All the common methods of hunting are covered—by small groups, gangs, trail watching, still-hunting—as well as hunting in many kinds of cover. Other chapters discuss tracking methods, recovery of wounded deer, guns and equipment, and some natural history of the species based on field observation. There is also practical information on how to hit deer with a rifle, derived from more than 40 seasons in whitetail habitat, not from typewriter-generated theories. (*Whitetail Fundamentals and Fine Points for the Hunter*, by George Mattis, The World Publishing Company, New York and Cleveland, 1969. 271 pp., \$6.95.)

10th Annual Copperhead Roundup

The Tenth Annual Copperhead Snake Roundup sponsored by the Conservation Society of York County will be held Saturday, August 15, 7 a.m. to 4 p.m. at Indian Steps Museum. Picnic, rest rooms and parking facilities are available at the museum, providing an excellent opportunity for the whole family to enjoy the roundup. Interested persons should contact Dale H. Leiphart, 871 Locust Grove Road, York, Pa. 17402.



MILLER PREFERS A LARGE, POWERFUL four-wheel drive vehicle for hauling his trailer on out-of-the-way roads.

Back Country Motoring

By John B. Miller

THE BELATED rays of the afternoon sun stabbed through a jagged crack in the dark snow clouds as though to have one last look at the white-clad northern Pennsylvania mountains before yielding to the fast-encroaching March night. Several days of comparatively mild weather had removed nearly all the old snow and reduced the high-crowned CCC road to a winding ribbon of slimy red clay, resting four inches deep on a foundation of frozen ground. Then, as though to cover up the unsavory mess, dropping temperatures had changed the rain of the morning to the snow of the afternoon, hiding the mud with a couple of inches of the white stuff.

I had completed a patrol of the beaver dams along a remote mountain stream and, bearing in mind the comforts of warm, dry clothes and a hot

supper waiting for me some 20 miles away, I bounced my car along with a careless indifference born of my familiarity with the territory—and just a bit too much confidence in my driving ability. Suddenly the left front wheel struck a snow-covered rock in the rut. The front wheels, followed faithfully by the rear ones, hopped clear of the four-inch ruts. Hasty spinning of the steering wheel did nothing whatever to stop the sideways slide into the water-filled ditch from which no amount of coaxing would guide them.

Compared to that muddy, snow-covered road, wet ice was real sticky. The chains on the rear wheels would shove the old car along the ditch, but the front tires just refused to climb back up the crown to the ruts. Furthermore, when I tried to make

them do it, I couldn't help hearing the grinding and bumping of the rocks and roots upholstering the steep bank on the left side of the car as they caressed the running board and fenders. (Yes, cars had running boards in those days.) Finally, it occurred to me that this process was doing those parts no good, and not getting me out.

In some parts of the country it



SHOWN IS THE "pole and forked stick" method of getting rig out of a slippery ditch. Longer pole would give gentler angle of exit, if necessary.

would have been a simple matter to wait a few minutes and enlist the aid of a passerby. In this section the chances were at least 10 to one that no such person would be along before morning, and perhaps not then. The idea of an eight- or 10-mile tramp to a phone or other aid, particularly in that slush and slop, and on top of the hike I'd already had that day, didn't particularly appeal to me half as much as riding home in the usual manner. When I crawled out to survey the situation it didn't take any great amount of intelligence to see that something would have to be done to entice those front wheels out of the ditch and back into the ruts. The sooner I did it the sooner I'd have my feet back in dry socks.

Casting about for an idea, I noticed a four-inch pole some 15 feet long lying where it had been thrown when

the roadside was cleared. The gears in my head started to grind and I concluded that, if I could hold it at the proper angle, it might serve as a guide to lead the wheels back where they belonged. There was no chance of driving a stake in the frozen ground under the slime, but perhaps a properly located forked stick propped against the bank might do it. A stout section of sapling forked at one end and three or four inches in diameter, was cut to a length which—allowing for slant enough to bring it to about right angles to the pole and for some shoving back into the bank—would permit it to hold one end of the pole even with the outside of the rut, while the other end rested in the ditch against the wheel. The prongs of the fork were left just long enough to hold the pole, but not long enough to contact the tire when, hopefully, it passed them on the way up.

The stout end of the pole was laid against the bank just ahead of the front wheel. The forked stick prop was set at the proper angle to hold the pole. I slid under the steering wheel, started the engine, held my breath, and let in the clutch. The front wheel bumped the pole, slid reluctantly along up it, and dropped into the rut—just as planned. It was followed immediately by the rear one. I heaved a big sigh, hopped out to remove the improved ramp, and in another moment was headed for the nose bag.

Works on Ice and Snow

This same trick works just as well in snow or on ice if the components are arranged properly. I've used it more than once since then and showed it to others whose work takes them to areas where they must rely on themselves to get out of trouble. Of course, such construction projects should be removed when you are through with them.

Most hunters and fishermen nowadays drive on improved roads at least 11 months out of the year. As a result their "back country" driving experi-

ence is decidedly limited. They save their time and money for a long-anticipated vacation, but all too frequently they allow avoidable accidents or breakdowns to mar or ruin the big trip. Such fellows are in the same category as the hunter who spends a couple of thousand dollars for guides, equipment and transportation for a moose hunt, but misses the moose when it shows up because he didn't sight in his \$300 rifle. A few hours and a few dollars spent in preparation of the car and its equipment, *before* the start, may easily mean the difference between pleasure and bitter disappointment.

Four-Wheel Drive Vehicles

Many sportsmen fortunate enough to live in rural or semirural areas—in these days of two-car and three-car families—are selecting a four-wheel drive vehicle for one of them. Any of the three Jeep models, Ford's Bronco, or International's Scout, as well as the imported Land Rover or Toyota, may well serve as a second car. Some wives have even been known to snitch such vehicles from Pop to go on a local shopping trip instead of driving the big family sedan.

Less fortunate citizens will have to drive their one and only vehicle. If there's any choice in the matter you should avoid taking a long, heavy, low-slung car into the back country. We might almost say that the older and smaller—within limits—the better for such duty. True, the newer and larger cars have much more luggage space and ride more comfortably on the good roads. They're also much better at polishing off the rocks and stubs that stick up between the ruts or beside the trail.

Assuming the vehicle is in good mechanical condition, the next thing to make sure of is the tool kit, particularly the tire wrench and jack. And be sure that jack works! Some years ago a friend of mine, traveling a back country road, came upon a fellow staring ruefully at a flat tire.

"What's the trouble?" my friend inquired.

"There's no blankety-blank jack in this car, and I've been here two hours already," the fellow replied.

The friend dug out his jack and assisted with the tire change. When it was done and they were gathering up their tools, the stranger held up a long, heavy, metallic object for my friend's inspection.

"Will you tell me what this cussed thing is?" he inquired.

The friend took one quick look and, with deep disgust, replied:

"That, my dear sir, is your jack."

After observing how little some people know about their equipment, it's easy to believe that story.

I hate to admit it, but I caught myself in a somewhat similar situation three or four years ago. I had purchased a new vehicle suitable for back country use. As a matter of course, I looked to see if the jack worked and the lug wrench fitted the wheel nuts, as well as making other cursory checks. But I didn't carry the

TODAY, MANY OUTDOORSMEN are taking their families along on camping trips—which makes it even more important than usual that vehicle is in top shape.





STATION WAGON is a popular type of vehicle with hunters and campers. It should have good tires, a jack that works, and other equipment for bad luck times.

investigation far enough!

In the deep mud of a rainy afternoon, on a bad construction job in New Brunswick, the air on the right front tire sought its freedom violently. Jack and wrench were brought forth and I approached the disagreeable task confidently, if not happily. Some of you can guess what I said when I discovered that the jack, of the low screw type, wouldn't go under the front axle when the tire was flat. It worked fine when the tire was inflated, but that was of no interest to me at this point.

Plank Solves Problem

The problem was solved by driving the flat tire up on two pieces of plank I carry in the luggage compartment of the trailer. Perhaps the worst part of the deal was that the owner of the garage that sold me the vehicle thought it was a good joke and wouldn't replace the jack with a suitable one.

There should be a moral in that story.

Tires and batteries should receive special consideration. This is especially important during the late fall hunting season, when cold and snow are almost sure to strike. Nowadays, "mud and snow" tires of some sort are

standard equipment for those whose duties take them in all sorts of places and under all sorts of conditions. I've gone through entire winters, using such tires in deep snow and sticky mud, without having to resort to chains. Early tires of this sort were noisy on dry hardtop roads, but the modern version is much better in that respect. And don't do like a fellow I ran into on a recent Alaskan trip. He had a flat as he rolled into camp. I offered to help him, and when I saw the flat I noticed that it was practically bald. I commented that that wasn't much of a tire for a road such as we were on. To which he replied:

"I've got a couple of new ones in the trunk, but I'm saving them until I get off the bad roads."

I walked away talking to myself.

Over-Inflation

While on the subject of tires it may be pertinent to comment that a little over-inflation is better than under-inflation. I make it a point to carry from five to 10 percent higher pressure than the automobile manufacturers usually recommend. How much over depends on the load being carried.

Whatever tires you use, take along a set of chains. By that I mean real chains, not just mud hooks. Also, before you start, be sure the chains will fit your tires. I well remember one bitter cold night years ago when I frosted my ears helping extricate the sheriff of Pennsylvania's largest county from a drifted ditch on a mountain road. It was approaching midnight when I came along with two other officers in my car. By use of a shovel, a tow chain, and some pushing, we got him on his way. The sheriff had a new set of chains in the car, but when he went to put them on they were too short, so he tried to get through without them. He had been there long enough to realize the seriousness of the situation. It's no joke to be stranded late at night in weather of that kind. It's easier to check the chains in the ga-

rage at home. His thanks were both sincere and profuse.

Every fall finds deer hunters in trouble at their mountain camps with cars that refuse to start on cold mornings. Generally, the root of the problem is a weak battery. In heated garages, or even at normal, low-country fall temperatures, a battery may be nearly discharged and still start a car if ignition and carburetion are working properly. Put that same combination out in sub-zero weather by a remote hunting camp and probably the most you'll get when you turn the switch is a tired groan. Cold increases battery resistance, decreases efficiency, and makes the engine much harder to turn over. These effects are minimum with a fully charged battery. Playing the radio and using the spotlight half the night may discharge the battery to the point where you walk the next morning instead of riding to the hunting area. Moreover, a discharged battery will freeze at only a few degrees below the freezing point of plain water. A frozen battery can best be repaired by buying a new one. It's the cheapest in the long run.

Unless the hunter is somewhat of a mechanic himself, it will pay him well to have his car checked thoroughly at a reliable service station. This check should include such items as anti-freeze, grade of oil, and tire condition, as well as the battery we've just discussed.

Coefficient of Friction

The elementary student of mechanics learns that, for any two given surfaces in contact, the coefficient of static friction is much greater than that of sliding friction between the same two surfaces. In other words, your tires will give much more traction before they start to slide than they will afterward, whether they are pulling or braking. Consequently, it pays to handle the power of the motor so the wheels do not start to spin instead of pouring on the gas and burning rubber. Once in awhile the

spinning process will get you out, simply by digging down to a solid surface or by drying the surface the tires are on. As a general rule, though, it will just get you in deeper. "Easy does it" is a good rule to remember in such situations.

When you come to a stretch of road that you have doubts about, such as a mud hole of doubtful depth, put the chains on before you start in. Then look it over thoroughly before diving in. Someone may have laid poles, boards, or rocks in to help him get out and left them where they can get you in deep trouble. I well remember one such occasion when I examined a particularly tough looking stretch of mud and ruts, after dusk had arrived on a chill March evening, and discovered what I had failed to see from inside the car—a six- or eight-foot piece of 2 x 4 sticking up and pointing back at such an angle that it probably would have gone through my radiator if I had rammed in without looking first.

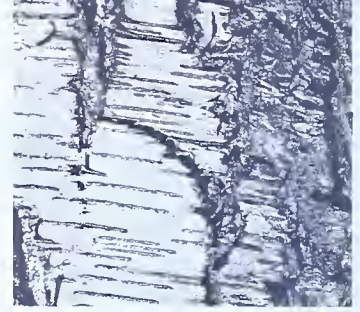
Momentum of Mass

Another thing the student of mechanics learns is that it is easier to maintain the momentum of a mass, once it is established, than to build it up after it is lost. That means that you are more likely to get through a tough spot if you change gears before you get into it than you are if you lug the engine down to the stalling point before shifting. Gears in automobile transmissions are there to be used. The good driver uses them wisely, up hill, down hill, and in bad going. One of the best things about automatic transmissions is that they tend to keep the poor driver out of trouble.

I usually feel sorry for the hunter or fisherman whose trip is spoiled by a breakdown or a wreck, although occasionally one occurs that is really what the fellow deserves, or even less. In any case it is safe to say that, in about 90 percent of the time, a few simple, commonsense precautions would have prevented the trouble.



INNER BARK OF basswood, as from line tree, above, was used to make twine and nets. Below, white pine bark is used for mulch, oil absorbent in polluted water, cough medicine. Bottom, bark from hemlocks is used for tannin.



PAPER BIRCH bark, left, was used for moose-calling horns, etc., while hemlock bark has been used medicinally and for tannin.

Know Your

PAPER BIRCH, black cherry, white pine, basswood. Sugar maple are forest trees. All have useful barks. These trees from their trunks or branches we know their outside or inside coverings. Barks are of great importance for flavorings, medicines, and gums. Some are used in snow or summer droughts. Others are used for insulation, soil-holders, and soil-conditioners.

In addition, barks make valuable roofs of camps and lean-tos, and a recent use is that of powdered bark for contaminated waters. Little has been given next-to-no publicity given to bark has been that of disposal rather than their values be known and appreciated.

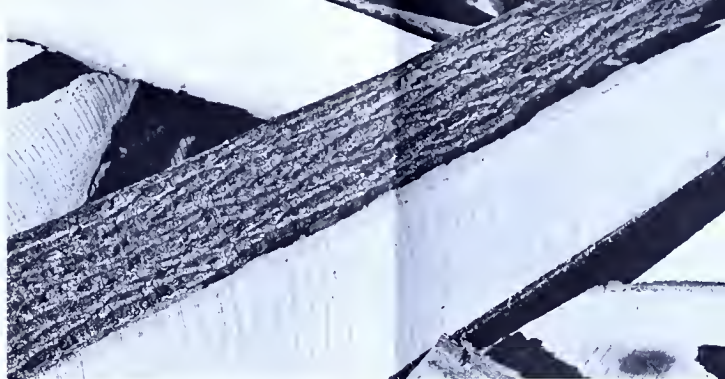


DECAYING RED MAPLE BEING CUT BY forest workers. The bark is eaten by rabbits and beaver. Lane among beech, for bread during times of famine.





ed in making canoes, wigwams,
ark of wild black cherry, right,
poultry litter.



WHITE OAK BARK, above, provides tannic acid for a yellow dye. Bark from sugar maples, below, can be burned in a smudge to smoke hams and bacon, is used as a dust-free litter for poultry, and is the source for a brown dye.

ur Barks

White oak, Eastern hemlock. Beech, hickory and red maple. All are important to many woodsmen fail to recognize them when they are out of leaf. Fewer yet know they have economic value. Nevertheless, some provide flours, beverages, and are used to feed wild game in times of deep snow. Some are used as animal litter, plant mulch, and conditioners.

Some are flammable camp fuel, cover the ground, and even furnish camp utensils. A more recent use is to bark to absorb oil slicks in conjunction with other methods, few investigations made, and few results. To date, the problem at sawmills is not that of use. It is high time that it be studied.

By J. Almus Russell

Its bark can be used for mulch, sometimes is used for fuel, right, whose inner bark was ground into flour





FIELD NOTES



... Begins at Home

WARREN COUNTY—Jack Moore, a member of the Food and Cover Corps, was asked to pick up a couple of road-killed deer. After checking the time, Jack thought it advisable to call his wife and tell her he would be a little late. As an afterthought he asked what they would be having for supper. Mrs. Moore's reply was, "Road-killed chicken." One of their chickens had wandered onto the highway and been hit by a car.—District Game Protector D. C. Parr, Tidioute.

Ingenious

SNYDER COUNTY—Mr. Ferster, RD 1, Richfield, told me that last spring a flicker persisted in pecking holes in the end of his garage. Any attempt to cover the holes or to putty them shut only resulted in more holes. Finally, Mr. Ferster tacked a 6-foot section of black garden hose along the top of the garage door, hoping the flicker would mistake it for a black snake. It worked.—District Game Protector K. W. Dale, Middleburg.

Details, Details . . .

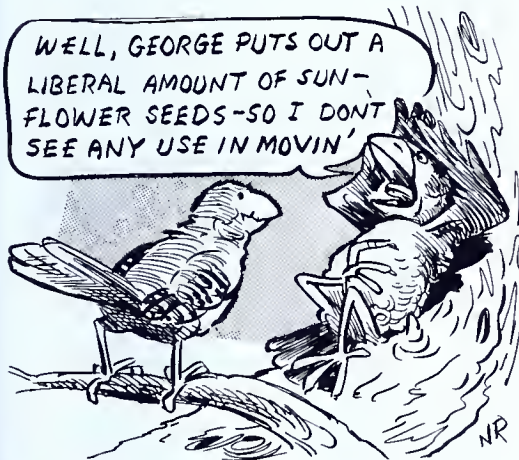
DAUPHIN COUNTY—A few days after I had informed Deputy Harry Whitney that I would like to obtain a red squirrel, he caught one in a rabbit trap. He placed the trap in such a tilted position in his auto that the door opened as he was driving down Route 22. Upon sensing something scamper up the back of his seat, Harry made an unscheduled stop to liberate his frisky passenger. As he opened the car door, the squirrel pounced on top of his head and, with a powerful leap, sent Harry's hat sailing through the air as he departed through the open door. I believe this deputy will position his traps more carefully in the future.—District Game Protector S. L. Opet, Millersburg.

Amphibious Firefighters

CRAWFORD COUNTY—A member of the Greenwood Fire Department informed me there had been a fire in the Conneaut Marsh, of which State Game Lands 213 is a part. The fire was rather a difficult one to fight due to the fact that it was burning over three and four feet of water most of the time. He said that most of the credit should be given to the Junior Volunteers for containing the fire. It seems they rounded up a fleet of rowboats and went out and put out the fire. Maybe there will be a new chapter in the manual of forest fire fighters next year—"How to Fight Forest Fires From a Rowboat." Regardless, my thanks to them for their efforts in saving a lot of wildlife, especially nesting ducks that would probably have been destroyed.—District Game Protector J. R. Miller, Meadville.

Fighting a Losing Battle

WAYNE COUNTY—From 1957 until 1962 a pair of bald eagles were noted in the Equinunk-Hancock area along the Delaware River. Then in the summer of 1962 an unknown adolescent shot one of the eagles. Every year since, one lone eagle has been seen in this same area from approximately January until March. But this year, two eagles have been noted in the same area by myself and many other residents. We all are hoping that they will stay and nest in the area as before, but everyone is pessimistic since the Delaware River is the most DDT-contaminated river on the east coast.—District Game Protector F. G. Weiglet, Galilee.



Could Be

LYCOMING COUNTY—While visiting George Koehler, a retired Game Commission employe, at his home in the middle of April, I noticed a flock of evening grosbeaks around his yard. He stated since he started keeping records the latest they had ever left was in late February and that some of these birds acted as though they were starting to nest. I wonder if these are old birds and are just tired of traveling and want to settle down.—District Game Protector R. G. Clouser, Williamsport.

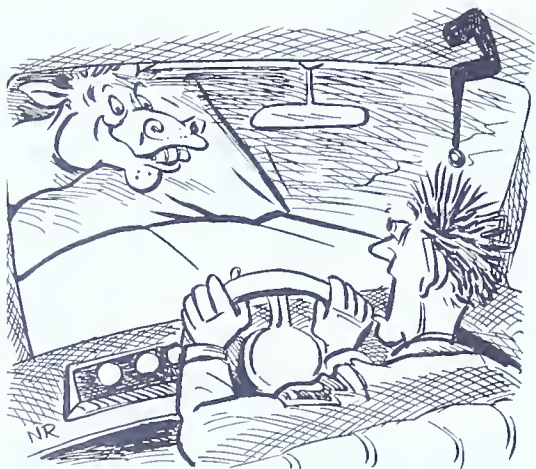


What'd He Use for Bait?

CENTRE COUNTY — Thomas E. Slother of Philipsburg made a catch on the second day of trout season that probably no one else ever has matched. While fishing the Bald Eagle Creek near Milesburg, Mr. Slother caught a six-foot boa constrictor. The snake was 12 inches in circumference. A valuable catch since some say these snakes are worth \$50 a foot.—District Game Protector D. Sloan, Bellefonte.

Do-Gooder

BEDFORD COUNTY—One of our local hunters just could not stand the idea of staying home doing nothing after he had bagged his deer. He decided he would help his buddies by going out and moving the deer around. This aid of his was the subject of many comments, including the following one, "Hey, did anybody see the kook without a rifle back in the hollow? I don't believe he wants any deer taken, because just as a herd was coming toward me he came busting through the brush and threw a couple of big rocks down the hill and scared the deer away." Too bad this hunter didn't know that this person was just trying to help him out.—District Game Protector C. J. Williams, Bedford.



Palomino Problem

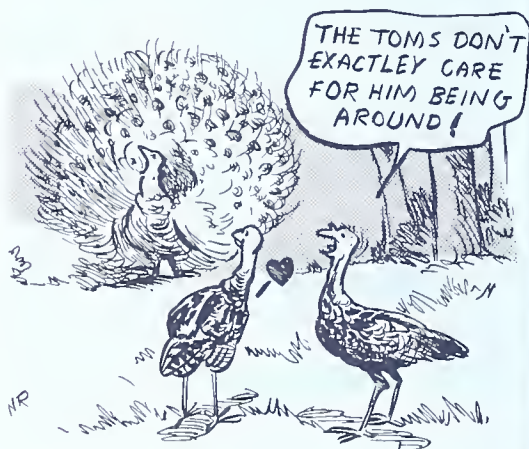
While returning to the Training School from weekend leave in my hometown of York, I was driving west on Interstate Route 80. It was Sunday night and I was especially alert for deer on the road, as I could see many of them feeding on the crown vetch beside the road. As I came over the top of a rise, I saw the red light of a State Police car up ahead. It appeared to be partially in my lane so I slowed down. Suddenly, in my headlights' beam I saw a large palomino horse trotting along on the shoulder of the road. Talk about deer being a road hazard! I believe I'd rather take my chances with a 115-lb. deer than a half-ton or so of horse!—Trainee J. R. Anderson.

Likes Fish

CUMBERLAND COUNTY — Milt Hunter of the Mechanicsburg area, an avid hunter and fisherman, during the past waterfowl season bagged a lesser scaup on the Susquhanna River. Being interested in the feeding habits of ducks, Milt examined the stomach of the scaup and found it to contain 51 minnows, varying in length from $\frac{3}{4}$ of an inch to $1\frac{1}{2}$ inches.—District Game Protector J. P. Filkosky, Mechanicsburg.

With Friends Like That . . .

ERIE COUNTY — Recently, I received a telephone call at 5 a.m. Sleepily I answered it, and a lady said, "Mr. Meyer, the State Police told me to call you. They said that you picked up dead horses and mine has just been killed on the highway." I told her that she had been misinformed. Later, I made the mistake of telling one of my fellow officers of the incident. Then at a deputy meeting I attended in Meadville, I was awarded a nice cup. Glued to the top was a miniature horse lying on its side. An inscription read, "To Russ Meyer, PGC No. 1 Dead Horse Picker-Upper." Real buddies.—District Game Protector R. W. Meyer, Fairview.



Buddies

JEFFERSON COUNTY — Mr. Woods, who lives on Hominy Ridge in the Cathers Run area, had a male peacock running around his residence. Last fall the peacock left with a flock of wild turkeys. Not seeing the peacock all winter long, Mr. Woods thought it probably had frozen to death. One day this spring he was walking in the woods and there was Mr. Peacock—still with the turkeys.—District Game Protector G. W. Miller, Sigel.

All the Time Slogans

CARBON COUNTY—My headquarters is located across the street from a park, and during the spring and summer months we get quite a bit of litter on our lawn. The other day while my wife was giving the lawn its spring housecleaning she found several soda straws lying on the patio. The following morning we found more straws at the same location. My wife couldn't understand this because she hadn't seen any children playing there. After an investigation, we found that a robin was building a nest on the branch of a tree overhanging the patio. Robin had found an abundance of soda straws in the park and was putting them to good use as nesting material. There must be a moral to this incident, maybe something like, "Littering is for the birds." — District Game Protector C. E. Burkholder, Weatherly.

Big Kids

While on a fire fighting detail in Jefferson County a chief from a local fire company commented that an additional 24 school kids were coming up to assist. He laughed when I told him his 24 students had already arrived (from the Training School) and that some of the kids were over 30 and hadn't graduated yet!—Trainee A. C. Martin.

Looking Ahead

LEBANON COUNTY — Extensive farming practices have reduced wildlife habitat considerably in Lebanon County so it gave me great pleasure to hear a landowner tell me he'd had a piece of bottomland surveyed by the Soil and Water Conservation Service for the establishment of a marsh area to attract wetland birds.—District Game Protector P. A. Hilbert, Cleona.

It Should Have Been, But—

HUNTINGDON COUNTY — It seems no one has faith in the postal system anymore. While cruising timber on State Game Lands 171, I located 2 deflated balloons attached to a postcard. The postcard was part of a science experiment of the St. Jude the Apostle School, South Holland, Ill. The postcard was duly completed and returned to the school, purely in the interest of science. Return delivery should have been somewhat faster and more dependable—Forester W. E. Shaffer, Huntingdon.



Well, You Can Ask

LUZERNE COUNTY—While on my way to pick up a road-killed deer, I thought I heard a woman scream. I turned the car around and investigated, but saw no one. A few days later I was told that a praying, letter-awaiting mother had mistaken my car and green uniform for that of an Army officer bringing terrible news about her son in Vietnam. My appearance has surprised and shaken up a few game violators in the past and I never gave it a thought. But now I may have a valid reason for requesting the Executive Director to issue me a bright-red sports car and a Mountie-type uniform.—District Game Protector T. Vesloski, Plains.



CONSERVATION NEWS



Hunting Seasons and Bag Limits Set

PENNSYLVANIA will not have a bear season in 1970, the Game Commission announced on June 2, in establishing official 1970-71 hunting and trapping seasons and bag limits for the state. This is the first time in 36 years that Pennsylvania has had no bear season.

In other changes from past seasons, the Commission:

- Closed the northeentral part of the state to winter archery deer hunting.

- Extended the winter small game and archery deer hunting seasons by one week.

- Declared a three-week turkey season in the northeentral area of the state.

- Reserved the right to extend the season on hares in the event of poor hunting conditions.

- Reduced the number of antlerless deer licenses that will be available by about 10 percent.

A five-week archery deer season will open Saturday, September 26; the six-week early small game season starts on Saturday, October 17; and the four-week general small game season opens on Saturday, October 31.

The two-week antlered deer season will start on Monday, November 30. A two-day antlerless deer season will be held on Monday and Tuesday, December 14 and 15. The winter small game and archery deer seasons open December 26 and close on January 16.

The key to the closed bear season this year is the unusually high harvest of bruins in 1966 and 1967, leading to an apparent shortage of the species in the northeentral part of the state, Pennsylvania's primary bear

range. Hunters reported taking 605 bruins in 1966 and 568 in 1967. The 1968 six-day season produced only 218, while 295 were reported taken in two days in 1969, which shows that a short season does not necessarily lead to a reduced harvest.

Sightings have dropped in some spots usually frequented by bears, another indication of a shortage. However, the shortage may be more apparent than real, since some of these locations are now inactive waste disposal sites.

While bears are in fair supply in some areas, it is believed that closing some counties while leaving others open would simply shift concentrations of hunters to localities where there are more bruins, resulting in an overharvest in the areas where hunting could be permitted. This would then result in a shortage of bears throughout the state.

Lacking a volume of reliable evidence that bruins exist in surplus, harvestable numbers, the Game Commission directed that there should be no open season for bears in 1970.

Because of legal advertising requirements, the Commission does not have the authority to close a season or an area on short notice. Last year weather conditions were such that the winter archery deer season could have been closed in the northeentral part of the state. To avoid repetition of that possibility this year the Commission closed the winter archery deer season in the northcentral area.

The winter season for certain small game species and the late archery deer season in that part of the state which will remain open were extended

by one week over previous years in order to provide additional hunting opportunities for sportsmen without endangering the species.

Studies show that turkey harvests sometimes can be rather high in the northcentral area during the final six days of a four-week season, particularly if there is snow on the ground and hunters have located flocks of the birds.

Three-week turkey seasons have often been held in the northcentral section in the past, and the Commission decided on a three-week season again for 1970. The remainder of the state will have its usual two-week season.

Last year deep snow covered the state on December 26, which traditionally is the opening day of the season for hares (snowshoe rabbits) and the tough hunting conditions prevented sportsmen from utilizing the resource. In event of similar circumstances this year, the Commission reserved the right to extend the season

for an additional week.

This year there will be 338,500 antlerless deer licenses available, down from the 379,000 authorized in 1969 and the 482,500 made available in 1968. The reduction in antlerless licenses follows a decrease in the size of the state's deer herd.

For several years the Game Commission has moved to reduce the whitetail population, which had grown dangerously large and was causing critical problems on highways, in crop fields, in forestry damage, etc. High antlerless license allocations enabled the sportsmen to crop some of the huge surplus.

There are still more deer than the habitat can comfortably support in some areas. Where densities are high or growing too rapidly, allocations are at or above previous levels. Where there has been a decline, allocations have been cut, in some counties by as much as 50 percent. Basically, other regulations, seasons and bag limits are unchanged from last year.

Release of Certain Wild Animals Banned

THE Pennsylvania Game Commission has prohibited the release and importation for release of some members of the wild cat, wild dog and wild bear families not previously banned.

By resolution, the Commission declared, "It shall be unlawful for any person to release for any purpose on any lands, private or public, within this Commonwealth, or to bring into the Commonwealth for the purpose of release, the following species: lynx, bobcat, cougar, ocelot, jaguar, leopard, tiger, lion, coyote, fox, wolf, bear."

The Commission said that release of the above species was undesirable from the standpoint of public safety, disease, predation, etc.

The action will not prevent bring-

ing these species into Pennsylvania and placing them in zoos.

This is not the first time wildlife species have been banned from importation and release. Previously, nutrias, San Juan rabbits and certain members of the cat, dog and bear families were prohibited.

The Commission also established a closed season on bobcats or wildcats in Pennsylvania. Recently legislation was enacted classifying bobcats as game animals, thereby giving the Game Commission the power to establish rules and regulations governing taking of the species. Since the number of bobcats has declined in recent years, the Commission acted to prohibit possession or the taking of wildcats by either hunting or trapping.

Pennsylvania Seasons and Bag Limits 1970-71

The Pennsylvania Game Commission, in Harrisburg on June 2, 1970, established the following seasons and bag limits for resident game and furbearers for the 1970-1971 hunting license year which begins September 1.

Open season includes first and last dates listed, Sundays excepted, for game. The opening hour for small game, migratory game birds and other wild birds or animals on October 31 will be 9:00 a.m., EST. Shooting hours for other days and seasons will be from one-half hour before sunrise until sunset, except for raccoons which may be hunted any hour and turkey gobblers (spring season) from one-half hour before sunrise until 10:00 a.m. DST. Shooting hours for migratory birds will be announced later.

SMALL GAME

Daily Limit	Season Limit		DATES OF OPEN SEASONS	
			First Day	Last Day
6	30	Squirrels, Gray, Black and Fox (combined)	Oct. 17	Nov. 28 AND
			Dec. 26	Jan. 16, 1971
2	10	Ruffed Grouse (not more than 10 in combined seasons) ..	Oct. 17	Nov. 28 AND
			Dec. 26	Jan. 16, 1971
1	1	Wild Turkey—Counties, and parts of, listed below°	Oct. 31	Nov. 21
		—Counties, and parts of, not listed below	Oct. 31	Nov. 14
4	20	—Spring Gobbler Season (bearded birds only)	May 8	May 15, 1971
		Rabbits, Cottontail (not more than 20 in combined seasons) ..	Oct. 31	Nov. 28 AND
			Dec. 26	Jan. 16, 1971
2	8	Ring-necked Pheasants, males only	Oct. 31	Nov. 28
4	20	Bobwhite Quail	Oct. 31	Nov. 28
2	6	Hares (Snowshoe Rabbits) or Varying Hares	Dec. 26	Jan. 2, 1971
Unlimited		Raccoons (hunting or trapping)	No close season	
Unlimited		Woodehucks (Groundhogs)	No close season	
Unlimited		Grackles	No close season	
Unlimited		Squirrels, Red	All months except	
			Oct. 1-16, incl.	

BIG GAME

1	1	Deer, Archery Season, any deer—Statewide	Sep. 26	Oct. 30 AND
		Closed in counties, and parts of, listed below°	Dec. 26	Jan. 16, 1971
		Deer, Antlered, with 2 or more points to an antler or a spike 3 or more inches long	Nov. 30	Dec. 12
		Deer, Antlered and Antlerless, with required antlerless license, buckshot only in Special Regulations Area listed below°°	Nov. 30	Dec. 12
		Deer, Antlerless—Statewide	Dec. 14 & 15 ONLY	
		—Counties, and parts of, listed below°°°	Dec. 14	Dec. 19
		—Bad Weather or Inadequate Harvest Extension—In case of bad weather or inadequate harvest Dec. 14 & 15 in counties designated	Dec. 18 and/or Dec. 19	

FURBEARERS

Unlimited		Skunks and Opossums	No close season	
Unlimited		Minks	Nov. 21	Jan. 10, 1971
Unlimited		Muskrats (traps only)	Nov. 21	Jan. 10, 1971
			AND	
6	6	Beavers (traps only)—Counties of Susquehanna and Wayne	Feb. 6	Mar. 7, 1971
3	3	Beavers (traps only)—Remainder of State	Feb. 6	Mar. 7, 1971

NO OPEN SEASON—Hen Pheasants, Bears, Elk, Otters, Hungarian Partridges, Sharp-tailed Grouse, Bobcat or Wildcat.

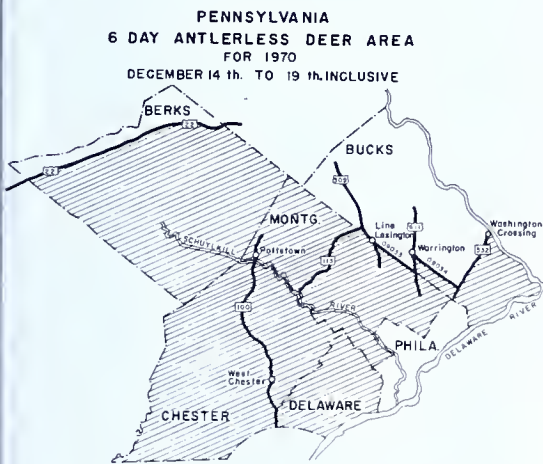
NO CLOSE SEASON—Chukar Partridges.

SPECIAL REGULATIONS

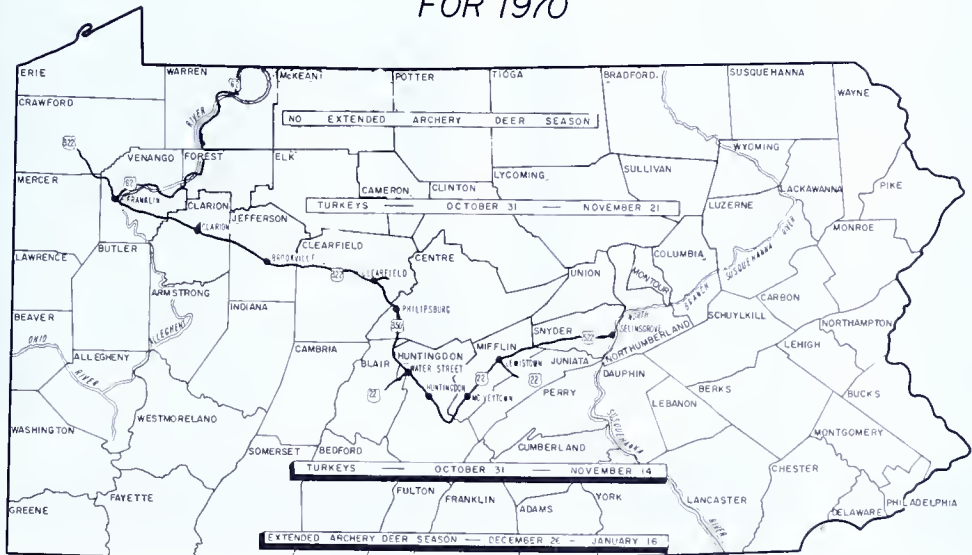
- * *Wild Turkey Season Oct. 31 to Nov. 21 and Closed Extended Archery Deer Season*, in the Counties of Cameron, Clinton, Elk, Lycoming, McKean, Potter, Sullivan, Tioga, Union, and in those parts of Forest and Warren Counties east of Route 62, and in that part of Venango County south and east of the Allegheny River and north and east of Route 322, and in those parts of Clarion, Clearfield and Jefferson Counties north of Route 322, that part of Centre County east of Route 322 north of Philipsburg and east of Route 350 south of Philipsburg, that part of Blair County east of Route 350, that part of Huntingdon County east of Route 350 north of Water Street and north of Route 22 east of Water Street, that part of Mifflin County north of Route 22 west of Lewistown and north of Route 522 east of Lewistown, and that part of Snyder County north of Route 522, and those parts of Bradford, Columbia, Luzerne, Montour, Northumberland and Wyoming Counties north and west of the North Branch of the Susquehanna River.

*** **Special Regulations Area**—Only buckshot and bow and arrow may be used for taking deer. The use or possession of single projectile ammunition (except arrows) or the use or possession of rifles or handguns discharging a single projectile while hunting or trapping at any time is prohibited in that part of southeastern Pennsylvania bounded by the following: Beginning at the Washington Crossing on the Delaware River, west on Route 532 to Legislative Route 09034 (Bristol Road), north on Legislative Route 09034 to Route 611 (Easton Road) at Warrington, south on Route 611 to County Line Road, Legislative Route 09033, north on County Line Road to Route 309 at Line Lexington and north on Route 309 to its junction with Route 113, southwest on Route 113 to the Schuylkill River, northwest along the Schuylkill River to Route 100, south of Pottstown, and south on Route 100 to the Pennsylvania line.

*** **Antlerless Deer Season**—Dec. 14 to Dec. 19 in the Counties of Chester, Delaware and Montgomery, and in that part of Berks County south of Route 22, and that part of Bucks County within the Special Regulations (Buckshot) Area.



PENNSYLVANIA WILD TURKEY AND EXTENDED ARCHERY DEER SEASONS FOR 1970



Game Commission Declares Two-Day Antlerless Deer Season—December 14 and 15

The Pennsylvania Game Commission, by resolution adopted at its meeting on June 2 in Harrisburg, declared a two-day statewide open season on antlerless deer.

Hunters participating in the antlerless deer season must possess an antlerless deer license for the county in which they are hunting in addition to the regular hunting license. Applications for antlerless deer licenses are available wherever hunting licenses are sold. Antlerless licenses are available from County Treasurers *ONLY. DO NOT MAIL APPLICATION TO PENNSYLVANIA GAME COMMISSION OR DEPARTMENT OF REVENUE, HARRISBURG.*

Only hunters who have not already harvested a white-tailed deer and who possess an antlerless license may legally harvest an antlerless deer. Antlerless deer are those animals with no visible antlers, regardless of sex.

In a specially designated area of southeastern Pennsylvania, the antlerless season extends from December 14-19.

In the Special Regulations (Buckshot) Area, antlerless deer may be taken during the regular statewide buck season if the hunter possesses an antlerless deer license.

County antlerless license allocations are as follows:

ANTLERLESS DEER LICENSE ALLOCATIONS

County	County Seat	No. of Licenses	County	County Seat	No. of Licenses
Adams	Gettysburg	2,650	Lackawanna	Seranton	4,200
Allegheny	Pittsburgh	4,150	Lancaster	Lancaster	2,450
Armstrong	Kittanning	3,650	Lawrence	New Castle	1,800
Beaver	Beaver	2,450	Lebanon	Lebanon	2,000
Bedford	Bedford	9,600	Lehigh	Allentown	1,250
Berks	Reading	4,300	Luzerne	Wilkes-Barre	7,450
Blair	Hollidaysburg	7,500	Lycoming	Williamsport	10,050
Bradford	Towanda	8,950	McKean	Smethport	9,750
Bucks	Doylestown	1,950	Mercer	Mercer	2,650
Butler	Butler	5,950	Mifflin	Lewistown	3,000
Cambria	Ebensburg	6,000	Monroe	Stroudsburg	7,150
Cameron	Emporium	2,400	Montgomery	Norristown	1,950
Carbon	Jim Thorpe	5,450	Montour	Danville	1,050
Centre	Bellefonte	9,900	Northampton	Easton	1,550
Chester	West Chester	3,000	Northumberland	Sunbury	2,200
Clarion	Clarion	4,700	Perry	New Bloomfield	5,000
Clearfield	Clearfield	11,050	Philadelphia	Philadelphia	
Clinton	Lock Haven	5,000	Pike	Milford	3,000
Columbia	Bloomsburg	3,550	Potter	Coudersport	11,250
Crawford	Meadville	5,600	Schuylkill	Pottsville	10,450
Cumberland	Carlisle	2,700	Snyder	Middleburg	1,900
Dauphin	Harrisburg	3,500	Somerset	Somerset	6,600
Delaware	Media	350	Sullivan	Laporte	7,150
Elk	Ridgway	9,150	Susquehanna	Montrose	4,350
Erie	Erie	6,000	Tioga	Wellsboro	11,600
Fayette	Uniontown	4,450	Union	Lewisburg	3,450
Forest	Tionesta	7,500	Venango	Franklin	7,650
Franklin	Chambersburg	4,300	Warren	Warren	8,400
Fulton	McConnellsburg	4,600	Washington	Washington	4,700
Greene	Waynesburg	2,200	Wayne	Honesdale	5,600
Huntingdon	Huntingdon	8,500	Westmoreland	Greensburg	4,900
Indiana	Indiana	5,400	Wyoming	Tunkhannock	3,300
Jefferson	Brookville	5,850	York	York	3,750
Juniata	Mifflintown	4,650		TOTAL	338,500

Bad Weather or Inadequate Harvest Extension—In case of inclement weather or inadequate harvest during the regularly scheduled antlerless deer season, the Commission may schedule additional days on December 18 and/or 19 and counties in which antlerless deer may be taken. Announcements will be made via all news media.

Pennsylvania Hunting License Sales Again Lead U. S.

PENNSYLVANIA, which consistently has been the national leader in the sale of hunting licenses, continues to lead all other states in the number of hunters enjoying recreational opportunities within its borders, according to figures compiled by the U. S. Department of the Interior.

For the 1968-69 fiscal year, Pennsylvania led the nation in every category of hunting license sales and in income derived from the sale of licenses, which in large measure finances the Commonwealth's wildlife management program.

There were 1,102,749 hunting license holders in Pennsylvania for the year, an all-time record. A paid license holder is one individual regardless of the number of licenses he may purchase. Following the Keystone State were Michigan, 918,175; California, 757,840; Texas, 729,661; and New York, 725,305.

Sales of all kinds of licenses to Pennsylvania resident hunters totaled 1,654,089. Following Pennsylvania in this category were California, 1,449,960; New York, 1,249,352; Michigan, 1,249,337; and Texas, 911,296.

Nonresident Sales

Pennsylvania's sale of licenses to nonresident hunters totaled 98,371. Other leading states were Colorado, 83,488; Wyoming, 68,914; New York, 66,874; and Vermont, 55,748.

Total hunting license sales stacked up like this: Pennsylvania, 1,752,460; California, 1,452,275; New York, 1,316,226; Michigan, 1,273,672; and Texas, 924,317.

The Pennsylvania Game Commission's income from the sale of hunting licenses was \$8,108,194.50. Other lead-



THE WHITE-TAILED deer is the game animal that attracts most Keystone hunters to our outdoors. Everyone wants to get a trophy buck to prove his prowess.

ers were Colorado, \$6,363,464; Michigan, \$5,900,086.20; Wisconsin, \$5,331,315; and New York, \$4,527,249.

It is interesting to note the big difference in fees for hunting licenses from one state to another. The one and three-quarters million licenses sold in Pennsylvania produced just over \$8 million in revenue, while the 435,000 sold in Colorado produced well over \$6 million.

Pennsylvania accounted for about one-fifth of the national increase in the sale of resident hunting licenses, and the Keystone State was responsible for about one-sixth of the national increase in the sale of nonresident hunting licenses.

Over 60 Percent of Bucks Taken on First Day

A Pennsylvania Game Commission analysis of the 1969 deer harvest shows that 36,685 bucks were taken on the opening day of the season. This is about 62 percent of last year's antlered deer harvest.



Samuel J. Kern



Egbert G. Musser

Two Land Management Officials Retiring

TWO KEY OFFICIALS in the Pennsylvania Game Commission's land management program retired on July 17. Samuel J. Kern, chief of the Division of Land Management, concluded more than 24 years of Game Commission service, and E. G. Musser, Pittman-Robertson coordinator, ended 25 years of service with the wildlife agency.

Kern, a Centre County native, is a Penn State forestry graduate. He served as a district forester and in other positions with the Pennsylvania Department of Forests and Waters, was employed by a refining company and served in the Navy prior to joining the Game Commission in 1946.

While with the Game Commission, Kern served as a land management assistant in the northcentral field division with headquarters in DuBois, Lock Haven and Avis.

From 1959 until 1968 he served as the food and cover section supervisor in the Harrisburg office. Since June 21, 1968, he was chief of the Land Management Division.

Musser, a West Virginia native, holds a bachelor's degree from Salem College and a master's degree from West Virginia University and completed advance graduate studies at Penn State. He headed the science department in the Charleston, W. Va., schools for eight years and was a biologist with the U. S. Soil Conservation Service for ten years prior to joining the Game Commission in 1945.

Musser served as a farm game technician, land operations assistant and P-R area leader in the eastern, western and northcentral parts of the state, with headquarters in Sunbury, Kutztown, Krumsville, Oil City and Franklin.

He coordinated the Pittman-Robertson (federal aid) projects for the Game Commission from the Harrisburg office since September 26, 1960.

The Game Commission has named John H. Docbling, land management assistant for the Southeastern Field Division, with headquarters in Huntingdon, to succeed Musser. A successor has not yet been named for Kern.



DR. WARD M. SHARP, former leader of the Pennsylvania Wildlife Research Unit at Penn State and long associated with the Game Commission, retired from the U. S. Fish and Wildlife Service in May. His final assignment for that organization had been as a wildlife research biologist for the U. S. Forest Service, Northeast Experiment Station at Warren, in northwestern Pennsylvania.



PAT MALLOY, 13, of Barnes, displays the 17½-lb. gobbler which made him the youngest Triple Trophy winner ever. With him are his father and a cousin, Len Cunic, Jr.

Book Review . . .

The Killer Storms

He was one of their gods, and the Taino, Lucayo and Igneri tribesmen of the West Indies called him Hurakán. And his name became our term for the most overpowering and destructive force known to mankind, hurricane. As only one comparison, the heat energy released by a hurricane in one day is equal to the heat that would blast from the simultaneous explosion of 400 *hydrogen bombs* of 20-megaton size. Obviously, it is unwise to underestimate the pure force contained in this natural phenomenon. Many people have, and many died, including over 300,000 during one storm in 1737 that smashed into India's Bay of Bengal. Here, in a highly readable, well-researched book, Gary Jennings gives comprehensive coverage on our earth's killer storms—telling how and where they are formed, what they do, their general movements, sizes, speeds, and much other data, including detailed reports on a number of individual storms. Fascinating reading for outdoorsmen who, of necessity, are concerned with the weather, for without doubt these storms are the most impressive weather humans have ever experienced. (*The Killer Storms—Hurricanes, Typhoons, and Tornadoes*, by Gary Jennings, J. B. Lippincott Co., Philadelphia, 1970, 207 pp., \$4.95.)



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



JAM-PACKED ROOMFUL OF HUNTER SAFETY students engaged in lively question and answer session at Clairton Sportsmen's Club.

Sportsmen—Prepare Young Hunters

By Susan M. Pajak

IT WAS SRO—Standing Room Only—in the spacious meeting room of the Clairton Sportsmen's Club, Coal Valley Road, Allegheny County, on a recent Saturday morning after a sea of bright-eyed youngsters swirled through the open doors of the clubhouse eager to participate in a Pennsylvania Game Commission approved Hunter Safety Course.

Accompanied by their elders, it was only seconds until the lads and lasses claimed every seat set out with the ringing cry of "More chairs, please!" reverberating 'round the room. Even then a handful of adults remained standing. In all, 178 boys and girls

(and a few adults) completed the course.

Conducting the program included HS instructors Deputy Game Protectors Scott Henderson and James Cochenour and club member Rowland Jones. During the session the instructors answered a mountain of questions and also demonstrated safe gun and bow handling. Nearly all of the young people were in the 12-15-year age bracket and hailed from suburban Pittsburgh communities.

"It is interesting to note," remarked Henderson, "that these boys and girls asked some thought-provoking questions, indicating that for their age they

are indeed serious about their future hunting adventures."

The lunch period that followed did not see a jubilant mass exodus as would be expected. Instead, the students flocked around the instructors, seeking deeper explanations to the questions and answers, particularly the game laws. Many participants were observed with a flapping sandwich in one hand and the instruction book in the other.

In the afternoon hours, a Game Commission slide program was shown, followed by more reviewing, the test, and then the grading.

"During the grading of the tests," smiled Cochenour, "a loud sigh of relief could be heard when perhaps a certain question was answered correctly, but if not one could almost hear the teardrops hitting the floor."

The officers of this 1700-member sportsmen's club realize the importance of a hunter safety training program and enthusiastically welcome the opportunity to sponsor the course several times during a year's period. Crowds of 175-200 people attend these sessions.

Situated on some 175 acres of ground, the club is equipped with all popular shooting ranges and HS students are afforded shooting instructions whenever the weather permits.

As instructor Jones of the club



DEPUTY SCOTT HENDERSON believes that a few minutes of personal assistance will help this young miss better understand the HS question.

noted, "It's up to us adults to teach, to the best of our ability and knowledge, safe gun and bow handling to the young people."

The doors of the clubhouse swung shut at 4:00 p.m. with 178 safe future hunters proudly heading home with their folks. This Hunter Safety Program had come to an end—but there will be others—and once again bright-eyed youngsters will meet and take their first step toward a safe and rewarding outdoor recreation.

Dogs Killed More Than 1300 Deer During Winter

Despite continued pleas and warnings by the Game Commission to dog owners to control their pets last winter, canines killed at least 1305 white-tailed deer in Pennsylvania in the first three months of this year.

Veteran Game Protectors said it was the worst winter for rampaging dogs in memory.

One year ago, for example, known deer losses to dogs for the months of January, February and March totaled 297. For the entire 1969 calendar year dogs killed 527 whitetails. Annual losses of deer to roaming canines normally run about 500.

Overall, deer mortality for the first three months in 1970 totaled 5233, compared to 3948 for the same period last year. The figures do not include winter-killed deer. Field officers indicated that most of the dogs involved in killing deer this past winter were household pets. Only a small percentage of the losses could be traced to feral (wild) dogs.



NEW PENNSYLVANIA-MADE CAMPING cabin, above, folds into small unit for car-top transportation.

Going Lightweight

By Les Rountree

I'VE JUST completed a field test of a lightweight aluminum cartop camper that is just the thing for the person who doesn't like to tow anything behind his car. The unit is called the "Notow." (What else?) This very compact package rides on top of a set of boat carriers, and until I actually tried it, I couldn't believe that it was as practical as it turned out to be. Folded up, the Notow is a rectangular box measuring 6 x 8 feet—and it's only 10 inches high. Erected, it's an 8 x 12 x 6-foot cabin, complete with two double bunks, table and four chairs, propane stove, snap-in vinyl floor, screen door and two screened windows. Sound impossible? I thought so too, until I started playing with the thing. It's impossible to compare it with any other type of camping unit, since there is nothing else quite like it.

Here, briefly, is how the Notow works. You pull into your campsite and drop the four aluminum legs that attach to each corner, unbolt the unit

and drive out from under it. Then, Rube Goldberg fashion, panels come flopping down. The instruction book said 12 minutes to set up (it took me 15), and you have a vermin-proof aluminum cabin. The complete unit, which weighs only 260 pounds, is available from A-S-H Aluminum Products, Titusville, Pa. 16345, and costs less than \$800.

Now the purpose of this preamble is not to plug a product, even though it is made in Pennsylvania, but to talk about the trend toward lightweights that is sweeping the outdoor scene. Plastics, synthetics and lightweight metals of all types are being more fully utilized each year in an attempt to provide not only lighter but more durable recreational equipment. As we mentioned in a previous column that dealt with plastics, some items, for practical or esthetic reasons, will probably never be structurally changed. But when a product can be built just as well or better by using a lighter



type of construction, why not use it?

The weight revolution is most apparent in outdoor clothing. A few years ago there was only one well-known manufacturer of down-filled clothing in the United States. Now there are a dozen and the list is growing. Many of the brand names are made by some of the old line suppliers but to the seller's specifications, which makes the list of styles and colors almost endless. A large number of sportsmen had to be taken by the hand and convinced many times that down-filled clothing was warmer by far than the old horse blankets they stubbornly clung to. They finally learned that down was not only warmer but it also provided this warmth with only a fraction of the weight. Cold weather sports life became instantly more comfortable.

Because soldiers must spend a considerable part of their careers in unpleasant places, and are required to, as the Army says, "hand carry" a lot of equipment, the military has done a lot of field testing. Since we taxpayers have paid for this testing it seems only fair that we should somehow benefit from their experience. And we do because the suppliers to the services are frequently the same people who produce civilian camping components. Usually the service-developed item requires some modification to become acceptable to the general outdoor public. Sometimes this modification consists only of painting the item some other color than olive drab. At other times the transformation must be more involved. Take the case of the insulated rubber boot. The famous "Mickey Mouse" boot of Korean winter fame is almost unidentifiable in its present commercial form. Its basic construc-

tion is still two layers of rubber between which is sandwiched a filling of foam rubber. Always very warm, it is now, thanks to current design, much lighter.

An increased interest in backpacking trips has also helped stimulate designers and inventors in the direction of lighter gear. An item as simple as a tent peg has undergone a complete transformation and now we have a plastic peg that is rustproof, shatterproof and of a bright-orange color to make it easy to find. For the backpacker, ounces count when long trips are made, and steel pegs, though durable, were simply too heavy, while wooden pegs didn't last long enough and aluminum bent too easily.

Another offering for the weight-minded walking camper is an inflatable plastic tent. This one-man sleeping unit is supported by three air ribs that are easily blown up by lung



WHERE LIGHT WEIGHT, little bulk and good performance are needed in a camera, most outdoorsmen have turned to a high-grade 35mm model.

power in one minute. I was a little skeptical about this blowing-up business, since I've had almost too much experience in huffing and puffing into air mattresses of various types. After crossing my eyes and blowing myself nearly unconscious at that endeavor, I began to carry an old tire pump for this purpose (the newer foot pump works well, too). But this plastic number is easy to blow up and with a sleeping bag tossed inside, it's just



OTHER ITEMS OF INTEREST TO campers going light are rescue blanket, metal match, medium-size knife and plastic tent pegs.

right for overnight stays in remote areas. The deflated tent weighs just $1\frac{1}{4}$ pounds and takes up about as much space as a quart vacuum bottle.

While great for the pack-in camper, this item could really be considered an outstanding piece of emergency gear for the hunter or fisherman who expects to find himself in remote and perhaps unfamiliar terrain. With one of these tents packed in the back of his coat or light pack, he could, with fire making equipment and some emergency rations, stick it out in the bush for days.

Weight Always Important

Even if a person is not a camper, the overall weight of the gear he carries while hunting, fishing or hiking is an important factor to consider. Without meaning to squeeze into compadre Don Lewis's area, I might just mention that about a dozen years ago, firearms companies, with gentle prodding from a small cadre of gun cranks, began making drastic changes in the dimensions of most sporting arms. Long barrels and cumbersome stocks became passé. There was some grum-

bling among the old-timers, but even they soon found out that it was much more pleasant to carry a short rifle or shotgun that weighed slightly over six pounds than a big boomer that weighed $7\frac{1}{2}$ or eight. Sounds like a small matter until the end of the day when that extra pound and a half feels like 50.

Boots have gone lightweight too. The old, tough leather style that took a year of continuous use to break in, has been replaced with a soft, treated leather that feels like a glove the minute you put it on. These newer lightweight boots may not wear quite as long as the old horsehide job, but they are far more comfortable. And if you get them wet they'll dry out overnight instead of staying soggy for three days. In the ultralight category, nothing beats canvas footwear for summertime camping and casual walking. I don't recommend canvas covered rubber-bottom shoes for serious hiking, but for puttering around camp they are just the ticket. If they become dirty or perspiration soaked—and they will—throw them in the washing machine and they'll come out fresh and clean.

There is, of course, some danger in going too light. Some materials have certain tolerances below which they can't be expected to perform well. I bought a flashlight last year (I buy a lot of flashlights and then proceed to systematically distribute them all over the state) that looked like a real winner. It appeared to be well made and served the purpose well until last winter rolled around. The plastic that was used in the body of the light was so thin and brittle that a below-zero night made it shatter like a sheet of glass. A very lightweight flashlight it was, but good only during warm to chilly weather.

Some Shortcomings

Items made of aluminum have some of the same shortcomings. There is an optimum thickness for each use that this metal is put to. Make an ice chest, camper body or picnic kit too thin and it won't last the season.

Today's camper who also happens to be a photography bug can arm himself with a lightweight 35mm single lens reflex that has a built-in light meter and an automatic everything else. Instead of guessing on exposure and other complicated calculations, you can be assured of going home with a good picture record of your most recent camping adventure. One camera weighing slightly over 25 ounces and six cassettes of 36-exposure film and the outdoorsman is set for at least a week's worth of pictures.

If you don't happen to be a back-packer or a primitive area camper, the lightweight gear is important to you too. As we mentioned a month or so ago, an overloaded pickup camper, trailer or passenger car can not only be uncomfortable to drive, but also downright dangerous. The common failing of most campers is that they either pack too much gear or too little. The tendency is to do the former. Make a list and add up the weights. If you have more than 350 pounds in the trunk, you've got too much for most cars. They'll handle it

for a time but sooner or later something's got to give. Eliminate some gear or replace it with lighter equipment.

For example: Aluminum cots and folding chairs are much lighter than wooden ones. Propane weighs less than an equal amount of white gasoline. Nylon tents are lighter than canvas ones, etc. Mind you, I'm not suggesting that just because a certain brand name is lighter means that it's better for *your purpose* . . . or anyone else's, for that matter. In some cases extreme light weight can cause problems. Vacuum bottles are a good example. The very light tin or aluminum vacuum shells are an abomination. They dent easily and fail to work well as preservers of temperature. In fact, just the opposite is true. The very best vacuum containers that I've used in recent years are those made of stainless steel. They sure are heavy, but they work better than anything else on the market, so I'll continue to use them until somebody comes up with a good lightweight substitute.

INFLATABLE PLASTIC TENT weighs less than two pounds, is big enough to protect a full-size sleeping bag and some equipment.



Automobile and truck tires should never be compromised by the camper so far as quality is concerned. Buy the best you possibly can afford and never head out on a trip with "lightweight" tires. A blowout can be dangerous and it's just plain annoying to unpack the entire trunk to get at the spare.

Maybe I'm just lazy but the preliminary act of loading the car for a camping trip is much simplified if you gradually equip yourself with lighter weight gear. Carrying the equipment to and from the house, or wherever you store it, is much less tedious, and if you do have to do some on-the-trip or before-the-trip adjusting it's much easier to pick up a 25-pound dæron or nylon tent than a 100-pound canvas job.

For gosh sakes, don't go rushing out to give that good equipment that has served you well the heave-ho! Do it gently. When an item needs replacing, decide if a lightweight model will do

the work. In most cases you'll find that lightweight is the way to go.

Reader's tip: Mrs. Howard Smith from Pittsburgh tells me that she has found an excellent way of "shaming" litterbug campers (and there are still a few around) into doing a better pick-up job. She carries a few extra plastic trash bags with her and when she sees a sloppy campsite she offers a bag to the occupants with this greeting: "I thought that you may need something to put trash into before you leave. . . . I just happen to have an extra trash bag . . . you're welcome to it." And with that, she hands them the bag and politely walks away. The results are usually amazing, Mrs. Smith reports. Within an hour, and sometimes minutes, the whole family has the area spic and span. All some people need sometimes is a slight shove. Thanks, Mrs. S. I'm going to take your advice and start to carry a few extra bags myself.

Book Review . . .

Handloader's Digest, Fifth Edition

For over two decades, John Amber has used the annual pages of the *Gun Digest* to prove firearms are an inexhaustible subject. More recently he has dedicated the *Handloader's Digest* to similar treatment of the closely allied practice of cartridge reloading. The *Handloader's Digest* is the single best reference for what's available for the mechanical necessities of this hobby—rifle, handgun and shotshell tools, dies, powder measures and scales, gauges, moulds, components, what have you—but knowing such listings in themselves can be dry reading, almost two-thirds of the book's space is given over to feature articles on many aspects of the handloading game. George Vitt covers techniques of rifled slug loading, Bob Colby goes into detail on black powder loading of muzzle-loaders, Bob Hagel discusses kinks for curing unexpected handloading problems, H. O. Davidson has an excellent article on the why and how of wildcatting today, when the factories apparently have covered the gamut of cartridge possibilities, and experimenter Ed Yard makes a perhaps surprising but sensible pitch for the 44 Special as the top handgun caliber extant—and lists the loads and reasons for his claim. There are many more well-researched articles, but you get the idea. *Handloader's Digest*, now in its fifth edition, has shaped up as the classic in its field. (*Handloader's Digest*, ed. by John T. Amber, Gun Digest Co., 540 Frontage Road, Northfield, Ill. 60093, 1970. 320 pp., \$4.95.)

Fun in the Field



By Keith C. Schuyler

Photos From the Author

THIS MONTH'S column is aimed directly at the over 139,000 bow hunters who bought an archery tag last year to set a new record for participation in this extracurricular activity. The term "extracurricular" is used because it becomes quite obvious when the total number of Pennsylvania's hunters is compared to the number in organized archery. The vast majority of those who hunt with the bow are gunners in turn.

There is nothing wrong with this. But there is plenty wrong with the results attained by the average part-time archer. No one likes to hear a non-qualified preacher sermonize, and we will try to avoid the necessity of pleading guilty to such a violation here. Rather, we would like to direct some thoughts at the vast majority of bow hunters who don't know what they are missing.

Okay, so we're off to a bad start. They do know what they're missing. Deer. However, most archers who just pick up the bow for the hunting season are missing much more than the game they seek. They are losing out on a lot of fun in the field between deer seasons. There are few areas in

Pennsylvania anymore that lack field archery ranges. Some are quite conspicuous along well-traveled roads. But many more are hidden back in the hills on terrain which simulates hunting conditions as much as possible. And herein lies both the value and the fascination of field course shooting.

Those who already enjoy this sport need no further encouragement. The only message to them is to try to enlist both the fellowship and the support of bow hunters who are outside organized archery. Organized archery here is meant to cover every field target setup from a few bales of hay scattered in the nearest field to the approved courses on which sanctioned field shoots of the Pennsylvania State Archery Association can be held.

Although anybody can hack around a field course shooting any number of arrows, shooting a regular field round has its own special fascination. By keeping score, the archer can note his own progress or lack of it. If he likes it well enough, he can participate in the regular state sanctioned shoots and get himself classified.

There is a certain hazard in this. The natural desire to improve one's



MEN, WOMEN, CHILDREN — all can take part in field shooting with the bow, and this is one of the reasons the hobby is so popular.

self is apt to turn the average stump knocker into a good shot. He may find that the fellowship found in such a setup is contagious, and he won't want to stay away when there is activity. Further, he may find that his success in the hunting field is tremendously improved. He may want to continue shooting the field range. He may find that this is a good activity to share with his son.

This is time-consuming. Over the long haul, it may be necessary to buy additional arrows. A bow hunter may even discover that the tackle he is using isn't even good firewood. (Most bows today have some Fiberglas in them.) He may find himself spending his money on good tackle to get good results.

If this hasn't scared you off, you may be interested to know just how a field range is laid out and what you are up against.

Basically, a field range consists of 14 target stations or units. This is all that is really necessary for an official course, even though the official field round consists of 28 targets with four

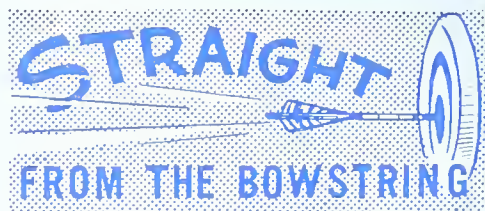
arrows at each station. This is easily understood if you consider that on the 28-target course, the 14 required stations are simply repeated twice. The only reason for having a double layout is to accommodate the number of archers who turn up for an official shoot. Too, having a double layout of 14 required distances makes it possible to provide a much more interesting course, since even identical target requirements can be set up on considerably different terrain.

Variation Needed

For example, the required 50-yard shot at an 18-inch target face on the first half may be across a small lake or pond. This shot on the second half of the range may be uphill through heavy timber growth. Since deer do not follow any particular rule in making themselves available to a bow hunter, he needs this variation to accustom himself to all types of hunting conditions.

Targets in the regular field round have only two scoring rings. The outside ring is black and scores three points. The inside ring is white and scores five points. Inside this white ring is a black aiming dot which has no significance in the scoring. Since distances are anywhere from 20 feet to 80 yards, it is necessary to have different size targets. At distances measured in feet, the targets are only six inches in diameter. At the shorter yardages, the outside scoring ring is 12 inches across. From 35 to 50 yards, 18-inch targets are used. At any distance from 55 yards up to 80 yards targets are 24 inches in diameter.

Although it may look as though somebody with a fiendish mind laid out the course, those used by clubs



affiliated with the Pennsylvania State Archery Association follow a definite arrangement. Safety is the first consideration. There is no rule as to the order of arrangement, but the individual or multiple targets at each station follow a specific requirement. For example, there must be a target station at which four shots can be made, from four different positions, from 20 to 35 feet, at four different six-inch targets. There must be a 12-inch target face at 15, 20, 25 and 30 yards. Four arrows must be released at each distance.

Four arrows must also be shot from one position at 40, 45 and 50 yards at an 18-inch target face. The same is true at 55, 60 and 65 yards for the 24-inch target face.

To mix things up a little bit, there is a requirement that at 35 yards there must be four shooting positions for one target. And at the same distance, there may be four targets for one shooting position. An 18-inch target is used for this one. Normally, four shooting positions are used since this is easier than setting up four different targets. Such a target station is known as a "fan."

A similar setup can be used for shooting at an 18-inch target where

IN THE ANIMAL ROUND, the first hit out of the three arrows permitted provides the only score. Shoulder area is the primary aiming point.



FOR VARIATION, animal targets with scoring areas superimposed may be used if the aiming spot is clearly defined for the bowman.

the requirement is that each of four arrows must be shot from different distances—30, 35, 40 and 45 yards. This can be a fan arrangement or what is sometimes known as the "walk across." Another variation for this, and one that is frequently used because it is much easier to set up, is what is known as a "walk-up" target.

At the walk across station, there are four shooting stakes, or positions, at each of the required distances. Each archer releases one arrow at the first stake and then stands aside while his companions take their turns. Then the four shooters move to the next stake and so on until each archer has released a total of four arrows at the one target.

The walk up station operates similarly in that each archer releases but one arrow before moving to the next stake. Usually, there are two stakes at every position where shooting is at only one target face, to enable two archers to shoot at once. This convenience is usually not possible at the walk across targets because of trees and brush. However, at the walk up shooting station, two shooters can usually release their single arrows at will before the other two take their turn. The group then moves up to the



MAKING TARGET SETUP AS LIFELIKE as possible provides realistic practice for the archer who will be hunting in the fall.

next stake until each has shot his four arrows.

There are three extremely challenging shooting stations which often leave archers grumbling to themselves. The four-target station with shots from 20 to 35 feet at the six-inch face is especially exasperating. Close distances make the shots appear easy, but they are much more difficult than they appear to be. At the extreme opposite end is the 80-yard walk-up. With shots from 50 to 80 yards, the change of distance is always tough to figure, especially if the target is on uneven ground. In between is the 30-yard shot at a 12-inch face. Comparatively, it is probably the most difficult of all targets on which to get a good score, since all four arrows are shot at the same distance at the second smallest target on the course.

Full Field Round

The preceding is what is known as a standard field round unit. The full field round is simply a double trip around the 14 targets, or 28 different targets, depending upon the facility available. It should be noted that at each target station exactly four arrows are shot. Consequently, a complete field round consists of 112 arrows. A perfect score, which would be a five for each arrow, on each target, consists of 560 points.

If there was nothing else to offer, this official field round should be enticement enough for anyone who wishes to hunt with the bow. However, for variety there are other rounds which may be shot utilizing the same target butts. They are designed in particular for the bow hunter.

For example, the hunter's round consists of shooting at target faces with an all black background with a white aiming spot in the center. Such targets have the scoring rings so indistinct that it is necessary to approach the target before the actual score can be known unless the arrows are all nearly centered. Aside from the different target faces used, distances are considerably mixed to make the shoot one more nearly instinctive. Scoring is the same as for the field round with five points for a bullseye and three for the outer circle.

For variation, animal target faces with the scoring rings superimposed on the animals may be substituted. When such targets are used, the aiming spot must be of a color which contrasts sharply with the color of the animal.

Yet another round utilizing the same target units is one most likely to be popular with hunters. It is known as the animal round. Again, there are special shooting distances.

The greatest appeal in this one is in

the target faces. Each depicts an animal or bird. There is considerable variation in the type of animals permitted, but the scoring areas are specified in the rules. For example, in the larger targets such as bears, moose, elk and caribou, the high scoring area is nine inches wide by 14½ inches long with rounded ends. In the smallest group of targets, which includes such as ducks and woodchucks, the high scoring area is but 2½ inches wide by 3¾ inches long with rounded ends. There are four target groupings utilizing various animals and birds.

Different Scoring

The difference in this round is in the way that it is scored. It is possible to complete the entire round of 28 targets with but 28 arrows, for if the first arrow strikes the target, it scores. If it is in the high scoring area, it earns a 20, or it scores a 16 for the low scoring area. If the first hit comes on the second arrow, it scores a 14 or a 10. If a third arrow is required for a hit, the score is an eight or a four. In no event are more than three arrows released at each target station.

Although this one takes considerable work to lay out, it most closely simulates actual hunting. This is the one that brings out bow hunters who have no particular interest in target shooting, of course.

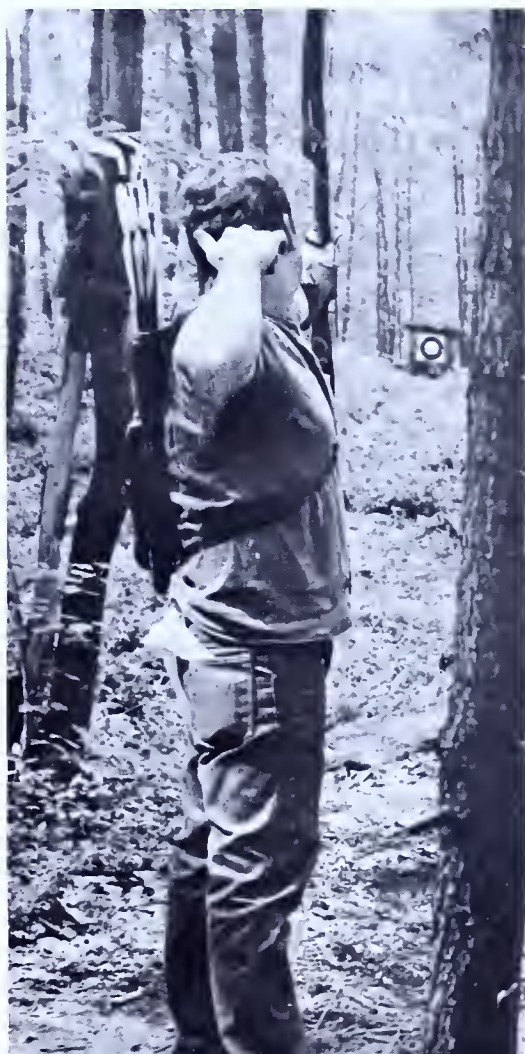
Those drifting by for the first time to watch archers in action on a field course may be surprised to see many sight, or free-style, archers making the rounds. For those not interested in sight shooting this is no reason for discouragement. Sight shooters, as they are known today, came on the scene after field courses were developed. However, they enjoy the variety and the challenge of field shooting as a supplement to regular target shooting. Most of them, who plan to hunt deer, will be out to practice with their hunting bows, or their target bows with the sight removed, before the season opens.

Furthermore, sight shooters have

their own class. The fellow who just wants to better his shooting for hunting purposes or the pure enjoyment of shooting is in a class by himself. If he shoots competitively, he will compete only against those who shoot as he does.

In fact, because so many have tried to combine some of the features of sight shooting with instinctive shooting, it has been necessary to impose restrictions in an effort to return bare bow shooting to its proper place. A move in this direction was seen at the First National Archery Association Indoor Tournament at Harrisburg in April when new rules were handed down to discourage shooting assists for those not utilizing sights. It is

THIS ARCHER'S TARGET is clearly visible through that lane down among the trees, but putting an arrow into it is not a simple job.



hoped here that more will follow.

Before the advent of sight shooting, distances were unmarked on field courses. Shooting was more nearly instinctive; it more nearly simulated conditions found on an actual hunt.

Nothing here should be construed as opposition to shooting with mechanical assists, whatever they might be. But we are making a pitch for more changes in the rules to return field shooting to more nearly what it was designed for when it was originated.

If those who are familiar with the field rounds described have come along this far for the ride, it is hoped that you might be encouraged to have your club hold an annual round prior to the hunting season. If so, by all means invite every bow hunter in the neighborhood to attend. It will be good practice for them, and they may be enticed into joining your club so that they can enjoy shooting the year around.

For those to whom the foregoing is of help in understanding what formal field shooting is all about, there is always an opportunity to take an active interest in it. Almost any archery club will be pleased to have you shoot at least once as a guest. Many permit a

guest to shoot at least three times to see if he might induce himself into finding out more about it on a participating basis. Membership is required for continued participation, of course.

Unfortunately, it is all too true that many simply pick up their bows when the archery season rolls around and take to the woods with little or no practice. Anybody deserving of the name sportsman should accept the obligation to improve his skill with the bow. This does not mean that a backyard target will not help to improve one's ability, but there is really no substitute for shooting a field course. It was originally designed specifically for the bow hunter, and it continues to serve a real need.

In the Commonwealth of Pennsylvania, which is certainly one of the top target states as well as the leader in number of bow hunters, no one need travel far to find help in shooting the bow and the arrow. There is no satisfactory alternative to direct personal assistance. However, those who wish to set up their own archery field range can get help from the Pennsylvania State Archery Association by writing to Clayton B. Shenk, Secretary, Ronks, Pa. 17572.

New Hunting Acreages

The purchase of 5504 acres of land at a cost of \$271,540 was approved by the Game Commission in April. Monies for the acquisitions will come from the Game Fund, and the tracts will be used for public hunting. Acreage being acquired is located in Blair, Bradford, Butler, Cambria, Fayette, Northumberland and Perry Counties.

The Game Commission also accepted as a gift a 59-acre island in the Susquehanna River in Upper Paxton Township, Dauphin County, below Sweigarts Island and being part of State Game Lands 258. The gift was presented by Paul Albert Umbenhauer of RD 1, Liverpool.

But They're Probably Bigger

A small sparrow has 14 vertebrae in its neck while the tall giraffe has only seven.

Summertime Hunting

By Don Lewis

Photos by Helen Lewis



I WAS JUST getting ready to start for the car when a hunter came out of the woods to my right. Since I was hunting chucks, I wondered what he would be hunting in the woods in the middle of the summer. He saw me and came my way. When he got closer, I saw he was carrying what I thought was a Model 94 Winchester. This made me wonder even more.

"See any chucks?" he asked.

"When I got here, one was on top of that stump down in the hollow, but it took off before I could shoot. The hole is at the base of the stump, and I'm waiting for him to come back out. I don't think it'll be much longer."

"Where do you see a stump?" he asked. "That field is bare as can be."

"About 225 yards away, down by the woods," I answered pointing. "Makes a real tough shot from here. I got three there this summer, and missed two."

"Come on, now. I don't mind hearin' a wild one once in awhile, but you

can't fool me that much. That's a thousand feet to that stump, and nobody is going to crack a chuck that far. For one thing, the sights would be bigger than the whole chuck. You'd have to guess where to hold. I doubt if my old 53 Winchester 25-20 would shoot that far."

"Did you say 53 Winchester?" I said quickly.

"You heard right. Bought her in '29. Like to hunt the hollows in the woods around those caved-in coal mine openings. I get 30 to 40 chucks a year."

"Mind if I take a look at your rifle? I haven't seen a 53 for quite awhile. Here, you look at mine," I added.

He took my heavy-barreled varmint rifle and studied it for a full minute.

"What in the world is this contraption you're using?" he asked, handing me back the rifle. "Looks like something from Mars."

"Nothing like that," I said with a grin. "It's a heavy-barrel 220 Swift on a Mauser 98 action."



M700 REMINGTON 6mm with 12X Leupold scope makes an excellent outfit for summertime use on chucks and crows in Pennsylvania.

"What do you call that piece of pipe on top?"

"That's a 10X Unertl Ultra Varmint scope. Makes a real nice outfit for a long-range rifle like the Swift. It's a tough scope to beat."

"Don't know about that. I couldn't see a thing through it. What good is it if a fellow can't see through it?" he asked sarcastically.

"Don't worry, I can nearly quarter a chuck's ear down at that stump."

"Well, you stick with what you like, but it's the old open sights for me. A fella never has any problem seeing them."

"You couldn't pick a chuck off down at that stump, either," I ribbed.

"I doubt if you will with all that fancy conglomeration of pipe and steel."

"Stick around. That chuck is bound to come out soon, and I'll guarantee to at least hit the stump."

The good-natured bantering went on, and, in fact, the chuck was half out of the hole before I saw it. I handed my newly made acquaintance my 7x35 Bushnell binoculars and told him just where to look. It was evident that he had had no previous knowledge of the binocular either. It took both of us a full minute to get the glasses adjusted for him. Once adjusted, he immediately saw the chuck.

"Now that you know just where the chuck is, why don't you use my rifle and take a crack at it? That chuck isn't going anywhere, and you'll have plenty of time to get off a well-aimed shot."

"Not on your life. You're not going to get out of it that easy. Remember, you're the guy who has knocked chucks off that stump all summer. I'm beginning to wonder if anyone was watchin' when you made all those fantastic shots."

"Since you've never used a scope, I thought you might like to learn," I said.

"I'm not interested in learning anything about scopes or even taking a shot with that contraption you're using," he shot back, never removing his eyes from the binoculars. "If you're gonna shoot, you'd better do it soon. That chuck is pulling back into the hole."

"Keep a steady eye on him until I get loaded and set up," I answered.

I dug my heels into the soft sod, and froze the fine reticle on the chuck's head. I really had to make this shot. There was no time left for me to explain how difficult a shot like this was. I had shot my share of chucks, but head shots at over 200 yards never come easy. For just an instant, the reticle was motionless, and I touched the set trigger.

"You Missed!"

"You missed, buddy, just as I knew you would," my companion sang out.

"I thought I connected. I didn't see the chuck after the rifle cracked."

"I didn't either. That's why I know you missed."

"Let's go down and see. We won't know for sure until we get there."

"Not me," he fired back. "I'm not walking a half mile to find out what I already know. I'm headin' for the car."

"You'd better make the trip with me. I just could have lucked one in," I tossed at him as he picked up his rifle and waved good-bye.

I've had one strict rule in all my

hunting and that is always checking out my shots. I've found rabbits, grouse, deer, squirrels, and chucks that I thought I had missed. A chuck sticking its head out of a hole can disappear immediately when struck, and the hunter has no way of knowing what happened unless he goes over. Once in Potter County in 1947, I hunted in a field that had holes that went straight down for three to five feet. I shot at several chucks before I woke up to the fact that if I wanted chucks to eat, I'd better allow them to get above ground. Experience has proved to me that if I see a chuck still standing or the head protruding immediately after the rifle cracks, it's a sure bet I missed. On this shot that I had just made, the chuck disappeared with the crack of the rifle.

Fresh Bullet Mark

When I got near the stump, I could see a fresh bullet mark directly over the hole. A quick look in the hole proved my tormenting companion to be right; the chuck was not there. Still curious, I got down on my knees and examined the bullet mark. To my surprise, I found plenty of evidence of a hit. A few minutes later, I pulled a nice chuck out of the hole by using a short forked stick. My shot had been a good one. When I laid the chuck on top of the stump to examine it further, a car horn blared, and I saw my friend waving. I held the chuck high in the air, and several more honks of the horn let me know he had seen it. I've often wondered what he thought but, unfortunately, I never saw him again.

Although this man and I disagreed on hunting outfits, we did have one thing in common; each of us was a summertime hunter. In a more serious moment while we were watching for the chuck, he had told me that the old M 53 Winchester 25-20 was the only rifle he ever used. He was very proud, and rightfully so, that he had never lost a deer even though he had killed seven bucks and four does. He be-

lieved implicitly in keeping in shape during the summer months. He contended that if he could shoot chucks offhand at 30 to 50 yards, he would have no problem in making a precise fatal shot on a target as large as a deer. With all his humorous sarcasm about my chuck rifle, he certainly had the right approach to getting prepared for the fall big game hunts.

Many times I've wondered how so large a portion of Pennsylvania's hunters see no real value in summertime hunting. I suppose I've had dozens of these fellows tell me that varmint shooting is simply a waste of time. It could be that they feel shooting a common groundhog doesn't put a hunter into a class comparable to the big game hunter. I know that shooting a deer or bear really lifts one's spirits, but big game hunting is very limited since only one animal of each species may be taken annually in the state. Varmint shooting in the summer allows the hunter game on every hunt.

I enjoy chuck hunting with various rifles simply because it affords me the opportunity to take 100-yard shots with the Hornet or Bee, a 200-yard

DON LEWIS AND SON watch a meadow near home for a chuck within range of the boy's single shot Ithaca 22-caliber Saddlegun.



shot with the 222, and 300-yard shots with the 22-250 or 243, all perhaps in the same evening. I hunt with several friends, and among us, we have suitable rifles for every shot. I don't summertime chuck hunt with just long-range shots in mind. Too much of this kind of thinking could keep a lot of hunters from enjoying a truly great sport. Power and long range are not the only ingredients in varmint hunting. The new chuck hunter does not need to feel that he will not become proficient unless he can topple chucks at 300 yards. In fact, from the hunting I have done, I don't know too many hunters who can make consistent hits at the very long ranges. There are just too many things to consider. John Coleman, Helen and I missed one chuck nine shots one windy evening at about 350 yards because we couldn't decipher the wind. When it became apparent that luck would be the only reason we would score, we stopped shooting.

Some big game hunters feel that because the chuck hunter uses a high-powered scope and a sturdy rest, he doesn't measure up to the man who shoots offhand. They see no tie-in between the two types of hunting. This



TED GODSHALL USES M110-C Savage 22-250 with 2½-8X Savage variable scope for his varmint shooting, finds it a very effective outfit at normal ranges.

is their first mistake. Shooting of any kind makes you a better gun handler. The deer hunter has little need for a heavy-barreled rifle, a 12X scope, and a sturdy rest, but he isn't shooting at a two-inch target at 250 yards. The fatal area of a chuck in the broadside position is not much more than three by eight inches. Compare this with a deer in the same position and note the size of the target. I'm not trying to belittle the big game hunter; I'm one myself. I'm only attempting to close the criticism gap that exists between the two hunters. The big game hunter thinks that varmint hunting has nothing to offer, and the chuck hunter feels that big game hunting is 90 percent luck. Each of these attitudes is off base, and we can all become better hunters if we do as much hunting as possible. As I see it, every hunter can profit a great deal by summertime hunting.

Little Time

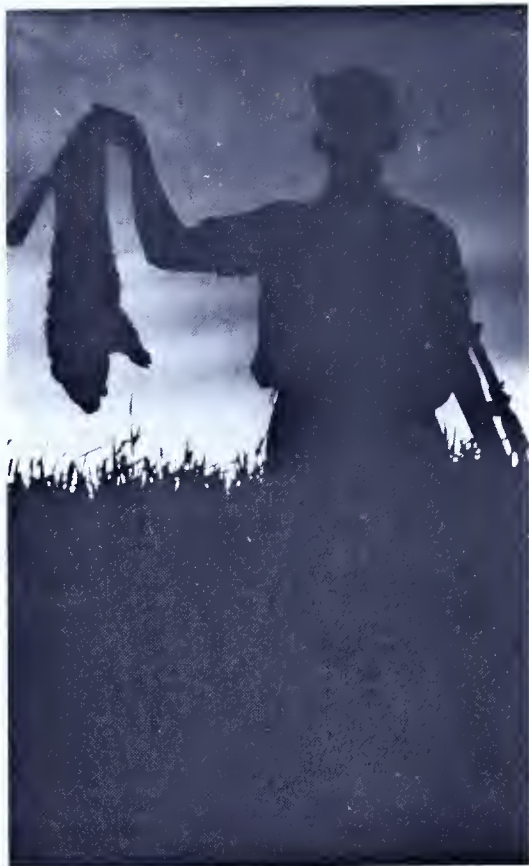
I have to defend the big game hunter since most of the time he has little time to get ready. His targets seem to appear from nowhere, and, in many cases, he is caught flat-footed. He takes the shot that is offered and does the best he can. Naturally, he has a real right to be proud of his success. On the other hand, the varmint hunter has everything opposite. Time is of no real significance. A chuck sticks to a given area, and once above ground, it intends to cat. This gives the hunter plenty of time. His drawbacks come from the small size of the target and the long distances. Wind is perhaps his greatest enemy, and I know of no way to overcome this foe. I've tossed grass in the air, watched the bending clover, and even held up a wet finger, but I never was sure just where to hold. Since one shot is about par for the average chuck before it heads underground, the hunter can't afford to overlook the smallest detail. Even if he knows the exact range, he still has to make a perfect hold and get the shot off without disturbing his

aim. Believe me, this is no simple matter.

Unlike the big game hunter whose quarry has a rather large fatal area, the varmint hunter is confronted with the problem of bullet placement. To many chuck hunters, bullet placement means more than the kill. Even the gyrations of a chuck's tail signaling a clean kill are no guarantee that the bullet hit where the hunter wanted it. He won't experience any real satisfaction until he knows that his bullet hit the exact spot. This may sound a bit confusing or somewhat boastful, but the seasoned chuck hunter can easily hit a chuck somewhere at most any range. Just as the rifle-using squirrel hunter takes great pride in head shots, so does the chuck hunter take pride in his ability to place a bullet.

Drive for Precision

The constant drive for precision that develops in summertime chuck hunting teaches many things that would never be learned in deer hunting. Although I suppose many hunters rarely think about it, psychology plays a very important part in hunting. I contend that the hunter with the proper mental approach stands a great chance to succeed. I think that most chuck hunters sooner or later develop this attitude. One may not realize it at first, but after a few evenings of failure, he'll begin to evaluate himself. This will help him iron out the little things that cause us all to miss. The big game hunter seldom has a chance to do this. In my own case, I never learned to shoot until I began practicing from the benchrest. Studying the targets and making a sincere attempt to improve brought group sizes down considerably. It wasn't long afterward that the results of my efforts showed up in my field shooting. Striving for tighter groups from the bench made me aware of things I had been doing carelessly previously. I found that the tighter the groups became on the bench, the fewer the misses in the field.



Perhaps I overemphasize perfection in varmint shooting, and it may cause some hunters to feel they want no part of it. I certainly hope that I haven't given that impression. The truth of it is, the more you hunt chucks, the more demanding you are of yourself. It will eventually get to the place where you will be looking for difficult shots on which to pit your skill. I don't want to imply that a difficult shot is necessarily a long, long shot. I killed a chuck that had only a small portion of its head visible in a slab pile. My Hornet Model 70 Winchester was dead on at 100 yards. Since it was no more than that to the pile, this was the shot I had been looking for. My hunting partner wanted to wait, but I had confidence in my rifle and myself. My bullet was right on the money. My hunting companion thought it was a terrific shot, but I had been shooting inch groups at that distance from the bench for weeks.

As far as equipment goes, chuck

hunting can be enjoyed more if the proper outfits are used. However, it isn't necessary to have a long, heavy barrel or a target type scope to get a real kick out of it. My only advice to the man who intends to use his big game rifle is to be certain conditions are safe for that rifle. The heavily constructed slugs don't break up like the fast, thin-jacketed bantam bullets. Just be certain there is a good backstop for the big bullet. You can suit yourself as to equipment, but I'll wager a couple of empty cases that you will be looking for some of the varmint calibers before too long. When this happens, you'll know what I mean when I talk about demanding more from yourself.

A sizable number of chuck hunters argue that there aren't too many precise shots in big game shooting, but I can't agree. I've made a couple myself. I will say that most of the successful running shots are blessed with a generous portion of luck, but there are times when the hunter is face to face with a very demanding shot. This is where the good shooting habits learned in the summertime will pay off. Probably more deer are missed due to a hastily fired shot than any other reason. I've heard about it many

times. Fact is, I've done it myself. A seasoned chuck hunter won't make that mistake. He has learned to be patient and not to fire until he is satisfied that his sights are where they should be. A chuck hunting friend of mine allowed a nice buck to walk over 100 yards farther away while waiting for the best shot. He got the buck. Later he told me that he knew what he could do with his 264 Magnum, so there was no need to take just any shot when the buck wasn't excited. That's the kind of confidence that summertime hunting builds in a rifleman.

How you fare next big game season might depend on how much you practice this summer. The best practice I know is testing your skill against the wary woodchuck. Try it and find out for yourself what you've been missing. If you would get a buck this fall, and want to know for sure that it was due to skill rather than luck, the time hunting chucks will have been well spent. On top of all this, I'll personally guarantee that you'll find summer hunting to your liking. With everything to gain and nothing to lose, you'd better give some serious thought to following my advice. It sure beats cutting the grass.

Looking Backward . . .

"Sportsmen have almost developed a language of their own in designating groups of particular animals and birds. For instance, it would be high treason to refer to a bunch of partridges. One should always say a covey when referring to members of the partridge family.

"Then there is a nide of pheasants, a wisp of snipe, a flight of doves, a muster of peacocks, a seign of herons, a brood of grouse and a plump of wild fowl.

"Of course there is always a stand of plovers, a gaggle of geese, a bevy of quail, a cast of hawks, a skull of foxes, a pack of wolves, a sleuth of bears and a gang of elk in the well-informed sportsman's dictionary." Repr. from "American Wildlife Institute."

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IN THIS ISSUE

FEATURES

	Page
Three Times Blessed	2
By Bruce Brubaker	
Second-Guessing Woodcock	8
By Robert F. Cuhhins	
Wanted! Snipe Hunters	13
By Byron W. Dalrymple	
Bugles in the Night	20
By James D. Hockenberry	
How to Hunt the Wild Turkey	24
By Gerald A. Wunz and Arnold H. Hayden	
Pennyroyal Tea Time!	31
By Ken Calnon	

NEWS

Field Notes	34
Conservation News	39
Hunter Safety Education	47
By John C. Behel	

COLUMNS

Camp Cooking Hardware (Camping)	49
By Les Rountree	
Archery for Everyone (Archery)	54
By Keith C. Schuyler	
Once Over Lightly (Guns)	60
By Don Lewis	

COVER PAINTING BY RON JENKINS

During the summer and early fall, ring-necked pheasants are common sights in the agricultural areas of Pennsylvania. They strut casually across suburban lawns in early mornings, perch on fenceposts where they can soak up the sun while keeping their feet and feathers dry during wet spells, and in general seem to enjoy life, though they haven't yet learned to combat the evils of cars on fast highways. But perhaps they'll prevail here, too, as they do in the hunting field, for as all gunners know, after the easy shooting of the opening hours, ringnecks smarten up and become pretty tough to find. Let's hope this proves to be the case.

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NEWS



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Christmas

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For

What Can We Do?

AT VARIOUS TIMES during the last few years, we've used this page to comment on the different forms of pollution which are taking over the world. Our air is largely unbreathable, our water undrinkable, and littering in general is so rampant that we are constantly filled with disgust. You know this as well as I know it. But, as many readers have pointed out in letters, it isn't enough to know that a certain situation exists. We must also do something about it. "What," they ask, "can we as individuals do? How do we start?"

The questions are valid, for it seems impossible to do anything on an individual level. A man knows that his car exhaust adds to air pollution, yet he must, in today's world, drive his car. He knows that the detergents his wife uses pollute our water, yet she must wash the dishes. He knows that trash and garbage disposal is one of the big problems of all urban areas, yet he must bring his well-wrapped food home from the supermarket and, later, he must dispose of the remains. No one yet has complete answers to these problems. Still, as the proverb says, the longest journey starts with but one step, so some effort at cleanup in your area can begin with *you*.

One area which you can immediately affect is water pollution. A big problem here is the phosphorous used in detergents. This accelerates the growth of algae in lakes and rivers and can make water virtually unusable. Obviously, those detergents having the least phosphorous will have the least effect in this respect. According to testing conducted by Limnetics, Inc., a consulting firm of Milwaukee, and reported earlier this year in the *New York Times*, the following popular detergents have these percentages of phosphates:

Axion 43 percent, Biz 40 percent, Blo-Ad 35 percent, Salvo 35 percent, Oxydol 30 percent, Tide 30 percent, Bold 30 percent, Ajax Laundry 28 percent, Punch 25 percent, Drive 25 percent, Dreft 24 percent, Gain 24 percent, Duz 23 percent, Bonus 22 percent, Breeze 22 percent, Cheer 22 percent, Fab 21 percent, Cold Power 19 percent, Cold Power All 9 percent, Wisk 7 percent, Diaper Pure 5 percent, Trend 1 percent. We understand Colgate-Palmolive is the manufacturer of Axion, Blo-Ad, Ajax Laundry, Punch, Fab and Cold Power; Procter & Gamble manufactures Biz, Salvo, Oxydol, Tide, Bold, Dreft, Gain, Duz, Bonus and Cheer; Lever Brothers manufactures Drive, Breeze, Cold Water All and Wisk; Boyle-Midwest, Inc., manufactures Diaper Pure; and Purex Corporation manufactures Trend.

Anyone who wants to take the first tiny step in dealing with the phosphate problem should be able to get some suggestion from the above as to what he might do and whom he should tell what he's doing. At the same time, he should watch the news media for information on state and federal legislation which deals with such problems—for instance, Wisconsin Senator Gaylord Nelson's bill to ban phosphorous in detergents in the U. S. by June 30, 1972, and set national pollution control standards on all detergent ingredients by the same date. Such legislation is in the interest of everyone and deserves our support.

If just the families who read GAME NEWS give these things a whirl, we might be pleasantly surprised at the changes we'll see. Have no more space this month to comment on trash, etc., but will get to it later. Meanwhile, at our house we've taken the first step against phosphates. Are you with us?—*Bob Bell*



Three Times Blessed

By Bruce Brubaker

THERE WE WERE in our den. I was cleaning a fishing reel after hard usage in Chesapeake Bay the previous weekend and Don was in a chair with his hand-me-down 20-gauge double-barrel shotgun, the cleanest gun in Cumberland County, across his lap. "Hey, Dad," demanded my 13-year-old son, "did you know that dove season opens next Monday at noon?" The excitement and anticipation in Don's voice proved that once again the fever of the hunt had struck our household.

In my most casual way I responded, "Yes, I know, Son. However, we won't be hunting when the season opens."

The silence became deafening. To say Don's face showed deep disappointment would be the understatement of the year.

After 20 seconds of complete silence, which actually seemed like 20 minutes to me, he asked the obvious question. "Why not, Dad?"

Don had forgotten that the opening date for Pennsylvania doves was a legal holiday, Labor Day, and that we were leaving on the preceding Friday for an extended weekend at the New Jersey shore. Our plans were to arrive at the shore late Friday night and spend Saturday, Sunday and Monday at the beach, fishing, swimming and water skiing. We would tow our fishing rig—an 18-foot boat, powered by twin 55 horsepower motors. The rig was already in place alongside our driveway, mounted on its trailer, ready for instant departure.

As Don was reminded of the coming weekend, and our plans revealed that we would be arriving home late from the shore on Labor Day, I could sense his disappointment about the prospect of missing an opening day.

Once again, silence. Finally the inevitable question came out. I was

quite certain that this question was coming and I had prearranged with my understanding wife for an early departure from the shore on Labor Day morning. "What are the chances of leaving on—"

I interrupted and said, "Yes, nine o'clock Labor Day morning. We probably won't be back for the opening bell, but I'm sure we'll be in the field for the evening flight of birds."

When the word "birds" reached the ears of Don's dog, Wags, bedlam broke loose in the den. You should know a little about this member of the family, too. Wags is a four-year-old blond cocker spaniel. Acquired for a house pet, Wags enjoys bird hunting as much as any dog ever did. She has a bragging nose for locating and flushing quail, grouse and pheasants. Her bed is the foot of Don's bed. She is the type of dog that everyone loves, even the mailman. No pedigree, no papers—just the hunting instinct of the breed, a good nose, and a consuming desire to please in the field. To be sure, she has had loving care and countless hours of yard and field training in basic commands.

No. 9s Ready

Grinning from ear to ear, the young hunter opened the bottom doors of the gun cabinet to reassure himself that his No. 9s were exactly where he had placed them. Every move he made was followed closely by Wags. I abandoned the reel-cleaning job for a few minutes and lifted my shotgun from the gun cabinet to check it. The setting hit me somehow. Here we were, I thought, a father, a son and a dog. What better combination could you ask for as preparations are made for opening day?

The weekend at the shore was ideal. Smooth water, good flounder fishing,



AFTER EXCHANGING GREETINGS WITH the landowner, we proceeded to the fence line. Small flocks of doves began to appear.

sunshine and a sandy beach helped make it most enjoyable. Life outdoors sometimes works in wondrous ways. Instead of the usual disappointment on leaving, there was great enthusiasm as we started the 180-mile post-vacation trip home on that Monday morning.

Much of the conversation centered around dove hunting. Every time we mentioned the magic word "birds," Wags would try to tell us that she was ready. It was almost 2 p.m. when we backed the trailer into its home port. Faced with the inevitable task of unpacking and storing the shore gear, there now was eager volunteer help from a young teen-ager anxiously looking forward to the coming event. Two hours later the three mighty hunters were on their way to tall corn country, a very special place in Cumberland County. One concession had been made to a complete job—we left for Tuesday evening the hot, soapy, wash job of the boat, motor and trailer.

It didn't take us long to drive the 15 miles to our shooting grounds. Don was anxious to get going, but I spent

a minute reminding him of the necessary safety procedures. The year before had been his first hunting season, but for years I had taken every opportunity to teach him proper gun handling and safe hunting methods, and he had absorbed them thoroughly.

I pulled the car well off the macadam road as I have done many times in recent years. As always, we visited the nearby house across the road and exchanged greetings with the property owner. This is a matter of courtesy and we are always glad to see each other.

An occasional *boom* told us that other dove hunters were in the area. This is always a good sign as the birds will be kept on the move, thus increasing everyone's chances.

It didn't take long for us to get ready. Soon we were crossing the first field toward our stand about 400 yards away. We had not loaded our guns as we were still only 40 to 50 yards from the car.

The day was warm—or perhaps I should say hot—for there was no protection from the sun which hung in

the sky above us. I could feel the perspiration starting. Suddenly, a small hen pheasant flushed from beneath our feet. We both pulled empty guns on the hen and just about in unison said, "Bang." A moment later a single dove passed overhead within 50 feet and we proceeded to dry shoot this dove in the same manner, laughing as we did so.

Soon it was time to load. As we turned our backs to each other and stuffed the No. 9 shells into our guns, Wags waited impatiently, the expression on her face plainly indicating she thought it was time we did something constructive with all of our guns and equipment.

We were encouraged by the sight of a few stray doves flying over the area where we planned to hunt. As we proceeded through the clover and neared the fence line, we became more interested in the small flocks of doves that began to appear ahead of us.

Wags moved out in front of us a bit, apparently watching for birds too. There's something uncanny about doves. You can be looking directly at a segment of the sky and it's absolutely empty. Then, with no warning at all, several doves have appeared, slanting across the heavens like living streaks of quicksilver. This takes some getting used to, particularly for gunners who are mostly pheasant hunters.

Wags returned and I patted her head. It was the first time out for all of us and she was starting the season a little overweight. The temperature was fairly high, the fields were dry, and I knew that it wouldn't take long for Wags to get hot and tired. A few seconds spent in talking to your dog thus serves a double purpose.

Within minutes we reached our spot for what we anticipated would be a good evening of dove hunting. Several fields converge on a tree line at the crest of a small knoll. A hedgerow runs at 90 degrees to the tree line, and behind it is a small oak woodlot. Within sight are fields of corn, clover,

and stubble, a perfect setup for fast pass shooting.

The year before Don had done a lot of dove shooting and very little dove hitting. During the interim we shot hand-thrown clay birds from all directions, trying to imitate wild bird shots. This practice would improve his shooting eye, we hoped. It didn't take long to find out as two fast flying doves came over us within range. If those crazy birds would only fly on a straight line it would give a son a chance to show his dad a clean kill. By my request, Wags was at our feet relaxing when she saw the birds approaching.

First Experience

Seeing her sitting there reminded me of her very first experience at retrieving doves. As most of us know, the dove is probably the least likely bird that a dog wants to retrieve. The majority of hunting dogs will not pick up a dove the second time because the first time they ended up with a mouthful of loose feathers. I don't know of another bird so prone to losing feathers when picked up by a dog.

Wags loves to retrieve quail and grouse because they are small enough for her to pick up. Because of bulk she has a lot of trouble retrieving a mature cock pheasant. I've seen her actually drag a big downed cock.

Before Wags became one of our family, there were many dove hunts when we were lucky if we found better than 50 percent of the birds that we knocked down. Many would drop in high grass fields or fly 100 yards and then drop, making it difficult to mark our birds. It was my goal to teach this dog to retrieve doves. I can still see her running after her first dove. I hit it over a cornfield and it dropped in a short grass field. Without hesitation she grabbed the dead dove and started back to me, but almost immediately dropped the bird as a person would drop a hot potato. Her mouth was full of feathers and she used every method that she knew

in trying to get rid of them. This new game was strange to her because there was no such trouble with quail and grouse.

I opened my shotgun, laid it aside, and removed the feathers. Then I gave the command, "Fetch." She didn't move. This brought chuckles and good-natured jibes from my hunting buddies. She followed me to the dead bird but refused to make a move. It was time for the showdown. I picked up the dove and placed it in her mouth and she dropped it quickly. Once again I placed it in her mouth and this time I held her mouth shut while we retrieved the bird. There was no scolding, just firm insistence that this was her job. The chuckles now changed to laughter as my buddies saw me holding her collar with one hand and her mouth with the other.

When I released her mouth she dropped the dove and once again ended up with a mouthful of feathers. This time she was on her own to get rid of them. Should I continue to

force her to retrieve a bird that was undesirable to her or should I leave her at home and continue to lose half of the doves that are knocked down and not found?

I decided that she could be taught to retrieve doves, feathers and all. The knowledge that this exercise helped her get in shape and the compelling objective of not wasting this fine game bird were reasons enough.

Another Mouthful

It wasn't long until another dove was caught in my pattern, and Wags was after the falling bird when it started to collapse. With bird in mouth the retrieve was started, and again it was short-lived. Wags dropped the bird and ended up with a mouthful of loose dove feathers.

I unloaded my gun, laid it down, picked the dove up and placed it in Wag's mouth—much to her dislike. As we paraded to my hunting buddies, their laughter started me laughing. However, I knew it was now or never. We dropped the dove beside my shotgun and Wags battled to rid herself of the feathers in her mouth. It was necessary to repeat this routine with at least another half-dozen doves before Wags realized that she had been brought along for just this purpose. After that you couldn't stop her from completing a full retrieve. But back to today—

As the two doves came into shooting range, Don raised his 20-gauge and shot. Twice. Two shots, two misses and a disappointed hunter—not to say that Wags did not like this type of shooting. A little discussion on "leading birds" took place as we prepared for the appearance of additional doves.

The surrounding shots started to increase, indicating that the evening flight was building.

Out of nowhere a flock of 10 or 12 birds came over us. Don made his first hit and I was lucky enough to down one out of this flock. The asking price on Wags was increased from one million to two million dollars, as



WAGS LOVES TO RETRIEVE quail and grouse, but found doves a different matter. She had to be convinced that her duties included bringing back these loose-feathered birds!

she did a double retrieve. Don's bird was brought back first, and then my bird was retrieved as both of us enjoyed the thrill that we all look forward to and sometimes never receive. We then separated by 50 or 60 yards and I observed my son pulling on flying birds, sometimes hitting but most of the time missing. I also watched Wags travel at breakneck speed over a flat field to pick up and bring back a dove which Don had brought out of the sky.

The large orange sun was now getting low, casting rays on the few clouds that appeared in the West when Don called, "Dad, if you want to see a beautiful sight, take a look at the sunset." To me, that moment was worth the entire trip. I'm sure you understand.

This father-and-son companionship continued throughout the dove season, with Don and I each getting some doves but missing many more. Wags, however, completed her job that season with 59 retrieves out of 60 downed birds.

What, When, Where

The size shot to use on these birds is important, so is the time of day that you hunt, so too is the location that is chosen; but unfortunately, some hunters feel that the number of birds you bring home constitutes the measuring stick of success or lack of it. Maybe on your next hunt you might try a different approach. Take your son or daughter along, and don't forget the dog. True, every hunter doesn't have a son or daughter who would enjoy this sport, or perhaps he is unable to go along due to other reasons. However, somewhere nearby there is certainly a boy or girl just waiting for such an opportunity to accompany an adult on a dove hunt.

Many high schools have hunting, fishing or conservation clubs, where you can obtain the name of an interested new hunter. You will enjoy teaching such a new hunter, but most of all you will have the satisfaction of



DON BRUBAKER with his hand-me-down 20-gauge double-barrel shotgun — the cleanest gun in Cumberland County, according to his dad.

watching him learn about a sport in the proper manner.

I cherish every time that I can take my son and his dog along on a hunt. Often we return with three or four doves, sometimes we are in double figures, but to us this is unimportant when compared to the fellowship which is enjoyed.

Threefold Blessings

Now we were on the way home. A boy sat beside me unaware of the passing landscape or traffic, wearing a contented expression as he mentally re-created the afternoon's hunt. Beside him rested a tired dog, her head on his lap, happy just to have been brought along. And as the twilight slipped into darkness, I counted my blessings—threefold. You see, this was my third son for whom the first day with the doves would be the opening chapter of a book about another season for a boy in the field with his dad and his dog.



Second-Guessing Woodcock

By Robert F. Cubbins

THE BELL stopped. Before I was sure of the direction, I heard Ray's urgent shout on my right: "Point! Hurry up, the bird's running."

I ducked under the lattice work of alder branches, crossed the shallow creek bed, and stopped in the middle of an open strip of swamp grass about ten yards wide. This natural opening cut through an entire alder swale so thick that only a woodcock could call it home. "Where are you?"

"Right here . . . step on it . . . the dog's moving." Ray was standing inside a tight cluster of alders about twenty feet to my right. Gun at ready, I moved in. The dog broke point, took a few timid steps, and locked up again. The muscles in his hind legs were quivering, and I marveled at the suspense which can make a man's heart thump and cause a seasoned bird dog to tremble. We pussyfooted after the setter, each of us trying to locate an opening unobstructed by alders. Getting a shot off in this swale is like trying to swing a gun barrel in a roomful of broomsticks suspended from the ceiling.

"This bird's run all the way from the edge of the opening. Since when do woodcock run like grouse?" Ray was annoyed. These birds had been throwing curves at us all morning.

"Maybe it is a grouse," I said. "We've flushed 'em here before."

"Nope! We'd have put him up by now."

I took another step forward and a woodcock twittered, corkscrewing his way up over the alders. Neither of us could get off a shot. The bird had flushed a good ten yards in front of the dog. We caught a fleeting glimpse of him, planing high over the treetops and bound for the other side of the swale.

"Well," Ray said, "I've had enough.

Too many leaves still on the trees, and these birds are too darned skittish. I've never seen them run like this . . . won't hold for the dog. Plenty of points this morning, and we've got what? Two birds?"

He was right. Dejectedly, I fell in beside him, and we trudged through the swamp grass toward the Scout and a light lunch.

It was the first day of the woodcock season, and for two weeks we'd been scavenging 8s and 9s from hardware shelves, working the dog to trim him down, and watching the thermometer. The weather, however, had double-crossed us. The birds had come down all right, apparently without the stimulus of frosty nights and brisk winds; but the alder swales still held most of their leaves and the birds, for some unaccountable reason, had taken it into their foolish heads to flush wildly in front of us. They might as well have been ringnecks on a cross-country hike. We were disgusted.

Stymied Today

For too many years to remember, we'd hunted these swales and enjoyed the kind of woodcock hunting one dreams about. In fact, the previous year we'd gone home after only two hours of pleasant shooting, a limit of birds in our vests. But today we were stymied.

When we reached the Scout, I took off the dog's bell, an absolute necessity in this heavy cover, and sat down on the tailgate. Ray broke out the lunches, and the sight of the ham and cheese on rye lifted our spirits. The dog lay down in the tall grass and waited for an offering.

It was a glorious day. A slight breeze whispered through the alders, and the scent of leaf mould and damp earth hung in the autumn air. Al-

though we'd both perspired enough to wet the backs of our vests, it was cool enough to slip on an extra shirt.

Between sips of hot tea, Ray said, "Might as well put the dog in the crate and go down to Stevens's orchard. Maybe we can push out some grouse this afternoon. It'll be two weeks before we can do much here." There was an air of finality in his statement.

Somehow, it seemed sacrilegious to leave our woodcock cover on opening day with only two birds between us. I wasn't ready to quit yet. Even if we couldn't see through the leaves or get close enough for a few good shots, there had to be a solution.

Suddenly it occurred to me that the majority of the birds we'd flushed had swung around just out of range and circled back over our heads, *toward* the opening. And most of the dog's finds had been within a twenty-five-yard radius of it. What would happen if one of us tried a little sentry duty in the grass while the other worked in the swale with the dog?

"Ray! Let's give it a spin for another hour. I have an idea." I looked for some reaction on his face.

"So you think we'll get a crack at 'em if one of us stands in the opening, right?"

"POINT! He's facing you." An instant later, "Mark, mark!" I heard the bird before I saw him. He came out of the alders, turned on the head of a pin. . . .



I couldn't repress the grin. After years of hunting together, we'd developed an empathy that didn't seem the least bit astonishing. Who of us can deny this happy phenomenon!

Ray gave the dog the last of his sandwich, put the top on the Thermos, and loaded his Browning.

"Which side first?" I asked, strapping on Putt's bell.

"I'll start on this side with the dog. You work the opening."

Five minutes later I was listening to Putt's bell as he vacuumed the swale. Ray's complaints about the dense cover were music to my ears. Whenever he complains, I know he's determined.

I'd walked about twenty yards from the Scout when Ray hollered, "Point! He's facing you." An instant later, "Mark! Mark!"

I heard the bird before I saw him. He came out of the alders to my right, turned on the head of a pin, and headed right for me. I stood as motionless as possible, let him go by and dropped him just as he began to tower for new ground.

"What are you shooting at?" Ray yelled.

"Woodcock — whaddya think?" So much time had elapsed between the flush and the shot that Ray, unable to follow the bird's flight, thought he'd escaped me. I put the bird into my coat just as Putt emerged to make the retrieve. I was glad I'd made it to the bird ahead of the dog. Staunch as granite on point, Putt has a mouth like a construction bucket!

Ray called the dog back in and continued working the swale. I felt the new lump in the back of my vest and mentally grumbled at our stupidity. Why hadn't we tried this earlier? It was duck soup.

Nothing breeds failure more quickly than over-confidence. "Mark . . . Mark!" Ray had walked up a big bird that floated across in front of me like the Goodyear blimp. I threw two loads of 8s at him and watched another miracle top the trees and head for

the sticks. I hadn't even ruffled his feathers.

Ray didn't have to ask. I spoke briefly about the bird's ancestry and slipped two more shells into the Browning. Ray was laughing. "Stick to business, Deadeye, or we'll be here all day." No comment . . . but firm resolve.

Ray and the dog were now approaching a spot where earlier we'd noticed a large concentration of chalkmarks and the telltale holes made by foraging woodcock. We'd walked up a few birds here, and I'd marked the spot by the old hay rake that lay rusted and broken to the side of the opening. I was wondering why anyone would leave a hay rake in such a spot when Ray hollered, "Point!"

He flushed two birds which hung almost motionless at the top of their rise; I fired quickly and saw the first bird drop into the treetops. The second dipped into the cut in the alders and turned on the gas. I fired and watched him fold up in a few puffs of brown feathers. Ray shook the first bird out of the tree, I picked up the second, and we tallied five birds altogether.

The complexion of the hunt had changed enough to bring a smile to Ray's face as he handed me the bird. "You've got four now; you bird-dog it for awhile."

Two Birds

Before we had reached the end of the swale, Putt had located two birds, which promptly flew straight for Ray. His gun cracked with the first flush and he was in business. We now were ready to hunt the other side of the road.

"Don't rush it," Ray warned. "Let the dog work."

I crossed the opening and started into the alders. On the first drive through this side, we'd had quite a few finds, but the alders were even thicker here, and it was impossible to get a shot unless a bird rose almost directly overhead or a gunner had a



I TOOK ANOTHER step forward and a woodcock twittered, corkscrewing his way up over the alders. I fired quickly. . . .

barrel made out of spaghetti, one that could shoot around corners. I decided to forget the possibility of a shot and work toward flushing a bird to Ray, who was now walking the opening and looking for some action.

Putt was working beautifully, quartering back and forth and sucking up enough scent to keep him twitching in front of the fireplace all winter long. He made a couple of quick casts to my right and froze, his nose practically on the ground and his tail so high it looked like a weathervane on a cupola. I warned Ray and moved toward the dog, trying to work around him to force the flush toward the cut. By now I was within feet of the dog, and no bird yet. "Something's funny here," I thought. "Since when will a bird sit this tight?"

Putt's eyes were rolling around in his head like marbles . . . he looked ready to have a stroke. I took another step toward him and saw the unmistakable black eye and long bill of a large woodcock, not ten inches from the dog's nose. I moved and the bird towered up. For a second I thought he'd cross us and head to the right, away from the gun, but he swung around toward the opening and Ray's 20-gauge barked.

I looked back to see where the dog

had gone and was flabbergasted to see him still pointing. He hadn't moved more than a few feet and he was rigid.

"Ray," I shouted, "Putt's still on point."

Before he could reply, two birds rose straight up into the sun over my head, tweetering like canaries at an audition.

I tried to raise my gun, but it was useless. I hollered, "Here they come," and waited.

Ray scored and now we each had four birds. Not bad, considering that we'd frittered away half a morning and got only two.

Changing places, we managed, three points and five shots later, to come up with two more birds, one for each of us.

It had been a whale of an afternoon. We loaded the dog into his traveling crate, stowed the guns in their cases and started out across the field to the main road.

As we cleared the alders, a car turned into the laneway and pulled up beside us. Two Brittanics hopped up on the back seat. Putt's deep-throated growl raised the hackles on their backs.

"Any luck?" the driver asked in a friendly tone.

Before I could spit out, "Oh, sure, we got our limits," an elbow in the ribs took the wind out of me.

"Oh, we got a couple of birds," Ray said, honey dripping from his tongue, "but the leaves are so darned thick yet and the few birds we found so darned skittish that it doesn't pay a man to spend more than fifteen minutes here. My son and I are going down the road after some grouse. Ever seen the size of the birds in Stevens's orchard? Monsters, every one! Good shooting, too. If you wanna follow us down, we'll be glad to show you where to park your car. We'll hunt the little strip of ground just below the farm and let you fellas work the orchard."

We showed them, and the smiles on their faces helped a bit to ease our guilt. But old Stevens's grouse would give them plenty of action, and, hopefully, they might even forget all about the woodcock . . . for a year or so, anyway.

A man will often share a good grouse cover. But woodcock? Well, let's just say there are some things even friendly people don't like to talk about.

Maps Available From Game Commission

State Game Land-Survey Map—This is a survey map of each individual State Game Land. It shows bearings and distances of boundary lines, corner markers, streams, roads, names of adjoining landowners, etc.; 24 x 36 inches (some larger). To order, give designated number and location. (Example—State Game Land 89 in Clinton County.) Price, \$2 each, delivered.

State Game Land-Topography Map—This is a topographical map of the State Game Lands as outlined above. Physical features are shown in black and the Game Land area is shaded in green. 8½ x 13 inches. To order, give designated number of Game Land. Price, 25 cents, delivered.

County Map—This map shows roads, streams, towns, etc. Its prime purpose is to show the general location of public hunting areas such as State Game Lands, Cooperative Farm-Game Projects and State Forest Land. 17 x 22 inches. To order, give the name of county map desired. Price, 30 cents, delivered. Also available in sets of 10 to 13 contiguous counties, 8½ x 11 inches, 25 cents per set or \$1.25 for all six sets, delivered.



WANTED!

Snipe Hunters

By Byron W. Dalrymple

"**H**OW CAN I keep my mind on a dog and a rabbit," John Peterson said, "when *that* keeps happening?"

What he meant by "that" was the flush of a small bird from almost beneath his boot. It burst out of the frost-bent marsh grass and swirled away low in a swift but tottering flight as if it were using first one wing and then the other. Over the first few yards it called in annoyance, the sound like a small, rusty door hinge—"scream, scream, scream."

John had lurched around at the flush, swinging up his gun reflexively, startled, then lowering it. The bird was most difficult to see as it skimmed the grass. Out of gun range, it towered high, eireling the pond nearby. Now the jittering flight was gone. With astonishing speed the little bird came around, seimitar wings biting deep and long bill outthrust.

"Why didn't you shoot it?"

"Shoot it!" John exploded. "How the heck could anybody *hit* one of the darned things?"

We had started out across the fields that crisp midmorning in November with a single beagle easting about. This was to be our first cottontail hunt of the season. There'd been a couple of chases and we'd bagged one rabbit. Then the dog had started working the marsh grass around this small pond, perhaps hoping to find a cottontail in a cozy form there, but immediately a jacksnipe had flushed. Then another, and another. The grass was full of them.

No doubt they had fallen in here during a migration flight a day or so ago, and finding good feeding in the soft mud of the pond border where they could probe with their long bills, they had stayed. To stumble upon such a gathering of snipe was a rare find indeed. Both John and I had stood it for several minutes now, but



GIVE EACH HUNTER one snipe and two boxes of shells and they could have an exciting day, Dalrymple says. He recommends No. 9 low brass loads for this shooting.

we both knew we weren't going to put up with it much longer.

I chuckled at John's exasperation. "We really didn't need this many," I kidded. "Give each of us one snipe and two boxes of shells and I suspect we could make an exciting day of it." Then I said impulsively, "Let's tie up the dog and have at 'em."

With the beagle moaning sadly at his plight, John and I put 40 yards between us and began slowly walking around the pond. Up from underfoot went the first bird. In characteristic fashion it skimmed away close to the grass in what has often been termed a "corkscrew" flight pattern. John's 20 let fly to no avail and mine followed with like result. The bird now reacted in typical jacksnipe fashion. It towered high, flew away over the fields but presently turned and came back, circling the pond, not in corkscrew motion now but in level, all-out flight.

"Blot it out and keep swinging," I said to John as the bird coursed straight in high above him.

His gun gave its command, the bird folded neatly and fell on a long slant into the marsh grass.

The poor beagle felt sorry for him-

self for several hours that day. This hunt occurred many more years ago than I like to admit, and was the first real all-out jacksnipe hunt I ever experienced. Previously I had taken a pot shot at one here and there, but until that fall day, when a cottontail hunt was switched to a session of snipe hunting (and missing), I'd never known what truly wonderful sport these little birds offered. Oddly, even in this day, few gunners do. And that is unfortunate, because nowadays, with so many hunters afield and civilization crowding everywhere, we need to utilize all of our species. A tremendous recreation potential for gunners goes begging every season because of lack of interest in, or lack of knowledge about, this diminutive though superbly dramatic lowland game bird.

Many Shorebirds

In pioneer days, when market hunting was at peak, the shorebirds, of which there are some 30-odd species, and of which the jacksnipe or Wilson's snipe is one, were supremely abundant. Willets, curlews, godwits, yellowlegs, plovers, stilts, snipe and others swarmed, some species over the vast marine marshes, others around the bogs and ponds, marshes and streams inland. Common was the scene of bundles of these birds, hung by the necks outside market places. Some market shooters, using decoys, brought wisp after wisp of birds in and then unloosed fine shot from enormous guns, killing dozens at one blast. It was not uncommon to purchase a dozen shorebirds for a few cents.

They were utterly delicious, too. And the small jacksnipe was considered by many the ultimate delicacy of the lot. There is the tale, oft told using different settings, about the waiter in a plush hotel who served to a gourmet a half-dozen broiled snipe. The customer stared in horror, noting that each had been wrapped in *bacon*. Then he flew into a towering rage,

arose and shot the waiter dead. Whether true or not, it illustrates the esteem held for the pure and delicate flavor of this dark-meated morsel.

The shorebirds, which lay at the most four eggs, could not stand market hunting or uncontrolled hunting long. In addition, many species were rather naive and fell fairly easily to the wiles of gunners, even decoying again and again to dead and wounded birds. Most species were shot spring and fall, and some, such as the willet, which lays large and very palatable eggs, were victims of nest robbers also.

Protection early in the century undoubtedly saved the shorebirds from extinction. Hunting continued, however, under regulations, for the jacksnipe. The jacksnipe was spread over much more of the U. S. and Canada, and more thinly than the others, since it seldom consorts in large groups but more commonly trades here and there in what were originally called "wisps," small groups of four or five to a dozen birds. The jacksnipe also is more wary than the others, not eager to decoy, and its flight habits make it an exasperating target.

Many Swales

I had the good fortune to hunt these birds when they were quite abundant and the marshes that drew them were also to be seen on every hand. These small swales of a few acres were scattered everywhere over farms and pastures during those fine days when draining had not become an obsession. A farmer following his plow usually skirted these wet spots and left them, though probably not with any really dedicated thought in mind for wildlife. But as time and land use marched along, the wetlands and the snipe population dwindled. Finally, in 1940 U. S. seasons were entirely closed. Some Canadian provinces continued to allow shooting.

Because wintering snipe are scattered over a very wide area, it has always been difficult to tell precisely

what their situation is. Without question the Louisiana marshes nowadays get the vast share of wintering birds, and undoubtedly always have. During the 1950s biologists began to develop much better methods of determining bird populations, and with protection the jacksnipe has made a substantial comeback. At last hunting seasons were opened again. This has remained the situation over almost all states, Pennsylvania among them, where snipe nest, migrate, and winter. To date the bag and possession limits have been—most of the time and in most states—eight and 16.

Snipe hunting has always been something of a specialist's game, with a very small number of addicts. During the era of full protection, young shooters coming up of course never made acquaintance with the jacksnipe over a gun barrel. When the species appeared again on the game list, few of the new crop of hunters even knew what it was when they flushed one.



SNIFE, AS WELL AS OTHER shorebirds, are found around bogs and ponds, marshes and inland streams. Not many hunters realize what good shooting they make.

Meanwhile many a duck and goose hunter had hung up his decoys because of low bag limits. But besides that, few waterfowlers had ever been dedicated snipe hunters. For them the jacksnipe was just too small a target to be interesting.

And so, oddly and unfortunately, during the late '50s and through the '60s snipe hunting has actually become for all practical purposes a lost art, not only in Pennsylvania but also in all but a very few localized spots throughout the wide range of the bird. In my contacts with game departments throughout the U. S. recently while I was doing research for a large hunting book, invariably the answer to my snipe query was the same: "Little or no interest among hunters; a few bagged as incidentals by hunters after other game."

Pennsylvania is not primarily a waterfowling and lowland-bird state. Its wetlands are limited. Nonetheless, there is an open season on jacksnipe every year, and there are enough birds

THE OLD SAYING, "Good things come in small packages," is confirmed by the snipe—a tiny target that makes excellent eating.



to furnish many memorable days afield for a number of purist-type gunners. Their skill may not be large, but a shoot that gathers four or five snipe is, I can assure all readers, a dynamic experience. It will keep one going back and wondering where these little demons have been all his shooting life. And, if he does go back time and again, and saves his birds well-wrapped in the freezer until he has garnered a possession limit, enough for a meal, I can make another prediction: he will really be hooked.

Good to Eat?

I cannot at that point resist a little anecdote. Some few years ago I happened to hunt pheasants with two friends in a piece of habitat that was quite marshy and exactly right for migrating snipe. Apparently a flight from up across the lake had tumbled in recently on its way toward the Gulf Coast. There were a lot of them. Pheasants weren't much, and the three of us got to shooting snipe. The other two had never previously done this. They had a ball, but when we finished they confessed they didn't know what to do with their birds.

"Are they any good to eat?" one asked.

"Them little things!" the other scoffed.

Now we, like other hunting companions, often played little pranks on each other. I said, not actually lying but just messing around a bit with the truth, "Some say they taste terrible." I paused. "Funny, though, I know somebody who loves 'em."

We agreed that so far as we knew there was nothing to prevent them from giving me their birds to pass along to "that person," especially if we made it official with written statement to that effect, so I would not be outside the possession limit in the eyes of the law. The upshot was that the whole bag wound up on the table of that person who "loves 'em"—me! And one of my sons, who had previously said he thought they tasted terrible,

Give

GAME NEWS

To a Friend . . .

didn't get a bite! If you can work this on some unsuspecting friend, feel free.

It was interesting for me to reflect, after the reopening of seasons on snipe and my return to seeking and hunting them, that they certainly had not changed one bit. The spots they selected were the same, their flight was precisely as I remembered it, and my misses had not changed much, either! I suspect that Pennsylvania woodcock hunters might make the best snipe seekers. They know how to ferret out special coverts. No dog is used, of course, but a woodcock gets used to looking for exact conditions of cover where he knows woodcock are almost certain to consort. He also looks for the "white-wash" or droppings which indicate that birds are, or at least have been, there. The same applies to snipe.

Snipe locations—at least suitable locations usable by snipe—are not as difficult to find as those for woodcock, simply because they are without exception based on water or wet areas. But in many instances a search resembles the one for that special woodcock covert, because a very small marsh may happen to have exactly what the jacksnipe desire, and may attract them in substantial numbers, whereas the large and more obvious marsh may for unknown reasons be less attractive.

In one instance I discovered a small dredged ditch the banks of which were sparsely overgrown with small willows, and with marsh grass near the trickle of water. It was no snipe bonanza, but season after season about a mile of it, cutting across several farms where I had permission to hunt, held a few birds. The shoot-

ing was lovely indeed, for the snipe acted as they always do. That is, when I jumped one as I carefully walked the bank, and missed it, one of two things happened. Either it flew on a short distance to be jumped again, or it circled and came down some distance behind me. I simply went on, let the birds behind me settle down, then jumped them again on the way back.

This habit is just as strong in a marsh or around a pond. Birds using the place do not like to leave, particularly if a pond with surrounding marsh, or a low place with marsh grass and openings where snipe can easily probe, is a fair distance from any other suitable cover. The birds just about defy being driven away. They rise and corkscrew away, and if they are missed they circle high. The flush is a difficult shot for many gunners because they think the bird is flying far more erratically than it is. Use No. 9 low brass loads if you can get them, No. 8 if you can't. Use a fairly open barrel and don't worry about the crazy flight pattern. Just pull tail-on and let fly and the bird is yours. If you miss, hunker down and wait. In numerous instances the bird that towers and circles will come right back over you. Now its flight is straight as an arrow, and though it is swift, the shot is not difficult.

Circle Back

After you've missed the same bird a couple of times, of course, it won't play this way so easily. If there is a gully or small creek with cover along the sides that comes into or leaves the marsh, almost every bird that you scare away will fly off over the fields but will circle and come back into the creek bed, perhaps unnoticed and a goodly distance from the pond and/or marsh. Leave such places alone until you are through with the marsh. Then work them—and missed birds will head for the marsh again.

For beginners, the basics to be learned begin with the general habits

of the bird. It is not a swimmer, and though classed as a shorebird it is not much of a wader. Occasionally one is seen wading the shallow edge of a pond. But fundamentally this species is an open-country wetlands bird. Wet meadows may suddenly blossom with them. Yet they like best the sedge and low vegetation common around ponds and in marshes. Scattered willows or other trees and bushes are acceptable. But snipe are never the "thicket" birds woodcock are. They feed to some extent on worms, just as woodcock do, but the dominant diet is made up of such items as small crustaceans, snails, larvae of aquatic insects, and the worms other than angleworms that are found in muddy and boggy earth. What to me is most remarkable about the jacksnipe is that it seeks its favorite surroundings even right out in the midst of mountain valleys and rocky terrain.

I have always remembered a fall when I was climbing forested ridges after ruffed grouse, and also discovering occasional woodcock in the scattered copses on more open slopes and beneath alders along a valley stream. The general terrain was rocky and the casual observer would call it forest cover. I came off a ridge and into an opening where scattered clumps of poplar and evergreens grew. In a tiny basin surrounded by poplar there was a seepage rimmed by soft soil and fallen leaves. The water area was no more than ten feet across and the depth possibly three inches. A few clumps of tall grass such as grows commonly beside a permanent spring were here.

No Place for Grouse

This was no place for a grouse or a woodcock and I let down my guard and laid my gun over my shoulder as I skirted the spot. Instantly a brace of snipe rocketed up, *scream, scream, scream*. I finally got into action, but astonishment and lack of alertness were worse enemies than the flight paths of the birds. They passed over

The Game Law Violator Is Stealing From You!

the ridge unscathed. The lesson, however, is that all such spots, particularly in the hilly parts of Pennsylvania, can be secret hides where this fine little game bird consorts during migration. It pays to overlook none.

Beaver ponds are also excellent bets. The edges, cleared by the beavers, attract snipe. Creeks that have any soft soil at all along their courses, slow bends on large streams that have allowed growth of cover vegetation, the old-time typical "swale" of which we see all too little nowadays . . . all of these, plus the duck marsh, may hold snipe. The so-called duck marsh, however, is not usable except along its fringes. You'll never find jacksnipe out in it where water more than about two inches deep stands. Lake edges that are marshy are of course good bets. But shy from the sandy shores. Sand holds little forage for the bill of a probing snipe. Mud flats are the ticket.

The snipe is not much of a runner. When you miss, or one gets up out of range and you watch where it falls in, you can be fairly certain it will be there when you walk in on it. But don't count on it being precisely at that point. I have watched snipe on several occasions alight and scurry with an alacrity I'd never have believed they possessed to a spot 10 to 30 yards from the place where they came down. Also, in heavy marsh grass after the birds have been shot at, they will either flush distantly at the sound of your approach, or lie fantastically close. I've walked back several times over the ground where I was sure a bird should be, and finally got it up. One fall I also had the good fortune to get a color telephoto shot showing exactly how a tight-lying snipe acts. With splashes

of droppings surrounding it, which proved it had been feeding here for some time, this bird squatted and laid head and neck out flat in short grass too low to cover it. Caught unaware in a too-open situation, it did its best to remain unseen.

Though I noted earlier that dogs are not used, actually a very slow spaniel tagging along does no harm, and sometimes can be helpful. If you can teach one to find and fetch downed birds, that is a blessing, for a snipe fallen into marsh grass is not an easy bird to locate.

Won't Face Frozen Ground

In Pennsylvania the season often falls during October and part of November. Though snipe do not seem to be quite as jittery as woodcock about leaving when a hard frost hits, they certainly won't hang around to face frozen ground. The fact that they feed along pond edges and on mud flats, which do not freeze as quickly as the somewhat higher ground of woodcock habitat, makes them a bit more adaptable. But my advice would be to start

trying to locate birds a bit before season and then get right after them when it opens. Keep watch also for a fresh flight of birds coming in when a severe piece of weather strikes to the north.

When you have your birds in hand, make the most of it. Though they're not easy to pluck because of the fine undercoating of feathers that stick rather tight, by all means have the patience to work at it and leave the skin on. And, if you must save birds for some days in order to have enough for a meal and you freeze them, don't leave them too long. Snipe, like woodcock and doves, do not retain their proper flavor if left frozen for long. In fact, they're best when not frozen.

The English snipe enthusiast of old much preferred to hang his snipe to "ripen." When the feathers began to drop, and the head began to separate from the body, the birds were considered just right. Few of us would have such culinary tastes today. But far more of us can do ourselves a large favor by forming a taste for hunting this small bird.

SNIFE ARE NOT AS JITTERY as woodcock about leaving when a frost hits, but they won't stay after the ground is frozen.





N.A. ROSATO

Bugles in the Night

By James D. Hockenberry

I YELPED out loud when the small twig hit me smack in the open eye. It was my left eye. Involuntarily I stopped and set the lantern down. In the darkness ahead a voice called, "Hurry up with that light."

Left hand clutched to my eye, I stumbled on. The frenzied staccato chop of the hounds grew closer and filled the woods. Eight-eelled flashlights began searching skyward, pointed toward the top of a tall hemlock tree.

"There he is. I caught an eye. Let's see what you can do with that pistol of yours now."

The familiar feel of my Smith & Wesson 22 filled my left hand. My eye pained and was watery and blurry. I couldn't see my front blade sight, let alone the raccoon. I tried to aim and let off a shot. Nothing happened.

"You missed, Hawk."

Holstering my revolver, I muttered, "Go ahead, Prinky. I can't see him."

At the crack of the small, single shot Ithaca 22, I spotted a disturbance at the top of the tree, then heard the breaking of branches.

"Here he comes!"

A split second later the raccoon hit the ground and the hounds were on him. A bit later we were making our way back to the cornfield. Shortly, the dogs struck trail again, and soon I heard, once more, the bugles in the night. . . .

One of the fringe benefits of my regular small game hunting trips to the Crawford-Erie County area is the opportunity to participate in some fine coon hunts. This time I had left Pittsburgh as soon as I could get away from work on Friday, October 31, the day before the opening of the 1969 small game season, and headed north. I arrived at my destination just outside of Lincolnville in good time. Al-

though time and distance had taken their toll, and eleven months had passed since our last hunt together, I was greeted by my lifelong hunting companion, "Prinky" Swisshelm, and his wife JoAnn of the eternal smile, as if I had been gone only a matter of hours. After a good meal and a mug of hot coffee, I was issued a direct question,

"Are you going to sit around all night in those city clothes, smoking your pipe, or are you going to change into boots and Levi's so we can go hunting?"

I changed in record time, and, gathering up the necessary equipment along with the hounds, we left. The party consisted of Prinky, his sons Jack and Bruce, Dave Foreman of Blacklick, and myself. We had two dogs, one a two-year-old half Walker, half Redbone, named Ginger, who belongs to the Swisshelms, and the other an enormous part bloodhound aptly named Mr. Big. It was a cold, misty, windy night, and long johns and a sweat shirt felt good.

First Attempt

Our first attempt was made in a long cornfield bordered by a large woods. We talked around the Coleman lantern while the dogs worked the corn. After barely ten minutes, Mr. Big opened up. It actually sounded like someone blowing space blasts on a bugle. Prinky checked his compass and off we went after the dogs. It wasn't long before even my untrained ear detected a change in Mr. Big's baying. The sound was short and choppy and Prinky hollered back at me, "Mr. Big's treeing!"

That was just about the time I had the run in with the twig. I think I lost.

We got two more coons that night before we called it quits, and return-

ing home tired but happy, we thawed out over a cup of steaming coffee and went to bed.

The following Friday I again escaped the clutches of the big city and returned north. We arranged a hunt for Saturday night that included Bob Campbell of Edinboro, Prinky, and myself. That night we ran Bob's four-year-old, Honeycomb, and again Ginger. Honeycomb is the mother of Ginger.

My friends accused me of bringing bad weather with me, as it was a carbon copy of the previous weekend. Wet, cold, and drizzly. We hunted in the Edinboro area. The dogs soon struck a trail, and once again the bugles rode the night wind. This was a smart old coon though, and after a long chase he headed into a large wooded area of huge hemlocks and beech trees with interlocked branches. At an old hemlock, the dogs set up the frantic, almost hysterical chop that marks treed, but we searched the huge tree in vain. It became obvious that

the coon had run along the connecting branches from one tree to another and was hiding somewhere that to this day only he knows about. After a long, fruitless search we had to call off the dogs and head for another area. This time though we hit real paydirt.

We parked the car and were walking along an open field that divided a cornfield from a wooded area. A few hundred yards along, the dogs suddenly struck and took off straight down the open field. It was an odd place to be running a coon. Prinky played his searchlight down the field ahead of the dogs and suddenly picked up four sets of eyes. We made out the forms of four deer.

Anxious Moment

An anxious moment followed in which I was informed that a hound that runs deer, or for that matter, any other critter except raccoons, is ruined, and is quickly banished from the coon hunting ranks. My two dog-owning companions seemed a bit concerned. Their fears were quickly proven unfounded. The dogs never gave the deer a second glance and turned off into the woods on a really hot trail. We moved after them and, as is necessary, kept them in hearing distance. While crossing a boggy area I stepped into a muskrat hole and sank in clear up to my knee—my only mishap this time. Chalk up another one for me.

The dogs sounded treed, and when we came up we found them at the foot of a small birch tree with low branches. It was sandwiched between two large hemlocks. We searched the branches for a long while with our lights, but couldn't make out the coon. Finally, Bob decided to climb the tree. He went up it like he was climbing a stepladder. (Later on that night, on separate occasions, I saw him climb 20-foot pine trees. Try that on for size sometime!) About three-quarters of the way up he spotted the coon and showed him to us with his light. He then descended and Prinky raised the little Ithaca and fired. The coon tum-



HOUNDS ARE BOUGHT, sold and traded with all the fervor of the old horse traders, and reputations live with a hound of any merit.

bled out. He was the biggest raccoon I ever saw, and closely resembled a cub bear lying there. He weighed, we later determined, close to 25 pounds. Carrying him out of the woods over my shoulder, I knew he felt like a hundred.

We ended the hunt for that night by getting two more coons out of one small patch of standing corn, in short, exciting chases. I had only one more encounter. While hurrying toward the tree where the final coon was hiding, I was looking up at the lights being played over the branches. Not looking where I was going, I hit a low stump, performed a beautiful somersault over it and landed flat on my back. My only thought as I lay there was, "If my wife could only see me now!"

I didn't say anything about this one to my friends. They were busy ahead of me and didn't see it.

The northwestern section of our state seems to be a mecca for coon hunters. There is an awful lot of coons here, and the sport is taken seriously. I notice that every time men meet, up in this country, the talk invariably turns to hounds, coon hunting, and the going price for coon hides. Hounds are bought, sold, and traded with all the fervor of the old horse traders, and reputations live with a hound of any merit. I heard countless stories about Nick and Sergeant, hounds of a bygone day that belonged to Prinky Swisshelm (also known in this area as "Whitey"). The dog which at present enjoys the most widespread reputation is Tip, another half Walker and half Redbone, which belongs to "Dutch" St. John of Lincolnville. It seems to be the popular consensus that Tip is the best coon hound in the whole area. I say this after listening to good hunters who



IT BECAME OBVIOUS that the coon had run along the connecting branches from one tree to another and was hiding in some place unknown to us.

have the sport of coon hunting down almost to a science—men like Prinky Swisshelm, Dutch St. John and his hunting partner, Dale Burgess, Bob Campbell, Art Bacon, Jim Hammond, and many others.

If you ever have an invitation to join in on some coon hunting, I'd strongly recommend that you do. It's a great sport that has a way of getting into your blood, and it's a fine way to fill in those fall nights that otherwise would be spent watching television. I know next year, as usual, I'll be back listening to the hiss of a Coleman lantern and smelling the familiar smell of white gas light and the odor of the woods while waiting expectantly for the wind to bring back those bugles in the night.

Probably Easier to Hit

The auerhahn is the world's largest member of the grouse family. It attains a weight of 15 pounds and a wingspan of five feet.



The King of Game Birds . . .

How to Hunt Him

By Gerald A. Wunz
and Arnold H. Hayden

CO-AUTHOR JERRY WUNZ proves that he knows whereof he writes, displaying one of a number of turkeys he has called in and bagged.

IN OUR OPINION, the wild turkey is the King of Game Birds. Some would even elevate him further by dropping the word "birds" from his title. The turkey didn't make it as our state bird, because he was vastly outnumbered by grouse, but he almost did as our national emblem. That shows some prominent men in our history—including Ben Franklin—felt the same way we do.

Before you accuse us of bias because we are biologists who specialize in wild turkey research, remember that familiarity is also supposed to breed contempt. But instead we have never lost one bit of interest in working with turkeys, nor enthusiasm for hunting them. If anything, our respect for this grand trophy deepens as we uncover each secret of his ability to survive in an ever-changing, sometimes hostile, environment. Our pulse still quickens whenever we see one; and if one answers our call during the hunting season our hearts pound just as violently as yours.

In Pennsylvania, the turkey is

classed as small game. Some states have given him the legal status and privileges of big game, and they have a good point. He's our largest game bird and is usually best hunted by big game, rather than small game, tactics. He's as fleetfooted as the deer, has the vision of a hawk, can pass grouse on the wing, and beats all other Pennsylvania feathered and furred critters in wariness.

Some turkeys are bagged by lucky squirrel, rabbit or grouse hunters, but if you want to eat wild turkey for Thanksgiving with regularity you will need specific techniques. When done properly, hunting for turkeys requires more woodsmanship, and often more perseverance, than any other game species. The hunter needs to be familiar with the habits of his quarry and know how to read their sign. He should know preferred turkey foods, where these foods are found and their current availability. He should also know the usual behavior patterns of the flock and how weather and other conditions may alter these. And, one of the most important, he must be able to talk their language on a turkey call.

If all this overwhelms the beginner, take heart. Actually, to inflate our

egos, we turkey hunters like to make it sound tougher to master than it really is. A little beginner's luck has turned many a tyro into an avid turkey hunter, and after that, skill seems to come easily. But if you're like we are, you will have to make your own "beginner's luck" by at least learning the rudiments before you try to hunt turkeys.

There are three basic turkey hunting methods—bushwhacking, tracking and calling. All are used with varying degrees of success in fall hunting, but only calling can be used in the spring. Since spring hunting techniques were covered in the May, 1968, issue of *GAME NEWS*, we will confine our advice here to hunting in the fall.

Turkey Guns and Ammo

You won't need any extra equipment to hunt turkeys, unless you are going to try calling. One gun can be used for all three turkey hunting methods listed, but the followers of each method have tended to specialize. For example, the "bushwhackers" favor the rifle, preferably scope-sighted, because their shots are likely to be at long range. On the other hand, the caller is best equipped with a shotgun because his chances are usually close at running or flying targets. The tracker needs both—a rifle for the long shots and a shotgun for the turkey that flushes nearly at his feet. Combination guns would be the solution if both partners weren't forced to sacrifice some of their individual performance in this marriage of rifle and shotgun.

Cartridge ballistics are out of our line, but we do know the 22 Long Rifle and lighter loads are notorious turkey cripplers. You can go as big as you want in caliber to assure anchoring your bird, but you won't have much to stuff with dressing unless reduced powder charges are handloaded to push a non-expanding bullet or you are lucky enough to make a butt-of-the-wing shot.

Opinions vary almost as widely on

shotgun shells as on rifle cartridges, but unquestionably the ones that throw the densest patterns of medium size shot are best. This means a high velocity shell in a big bore—at least 20 gauge—constricted to a rather tight choke. We have taken turkeys with every shot size from 7½s to 2s, but 6s are now our favorite.

Shotgunners should aim for the head and neck on standing or walking birds. Because this vital area doesn't offer much target to the rifleman, most marksmen center on the open "v" of the wishbone of a facing bird, between the "shoulder blades" of one facing away and the wing butt on a broadside. That means holding high on his body. At best, a lower shot would ruin some delicious breast meat or, at worst, leave a cripple. Because of their great size and strength, turkeys can carry a lot of misplaced lead. In some areas we have evidence that the crippling loss may nearly equal the legal harvest.

Because a turkey is a comparatively big bird, to the inexperienced it tends to look closer than it is. Too many shots are taken at turkeys which are far out of the effective range of any shotgun. Usually these are hit by a few pellets, which may cause eventual

WITH SHOTGUN ready, Wunz strokes his box caller in answer to the yelps of a turkey in northcentral Pennsylvania's snow-covered woods.





THE BIRD HAS responded, and one well-aimed shot from the 12-gauge full-choke slide action has made this a successful hunt—one that will be remembered long.

death, but no one benefits from this and it's costly to our flocks. For best results, the shotgun should not be used at more than 50 yards—40 is much better—and rifle shots should not be attempted at any range where you are not morally certain of your ability to place the bullet very close to your intended point of impact.

Bushwhacking Turkeys

The first hunting method, bushwhacking a turkey from ambush, requires much patience to sit and watch an area that turkeys frequent when feeding, roosting or traveling between the two. And it can also be the most unrewarding, considering time spent. Most ambushing is done over feeding grounds and, helpfully, turkeys usually advertise these by their scratchings. We say "usually" because turkeys don't have to do much scratching when a bumper crop of beechnuts or acorns drops on top of the leaves. In these years of abundant food it becomes particularly difficult to hunt in this manner because turkeys are hard to locate by scratching and they are often on the move, seldom feeding in

the same area twice in succession. Thus, the ideal situation is to have localized food conditions to concentrate turkeys for this type of hunting.

The novice may mistake deer or coon pawings for turkey scratching. Turkeys rake leaves back to bare the ground in patches perhaps a foot in diameter, and if you look closely you will usually find a few of their droppings. You can also distinguish the freshness of the scratching by the dampness of the exposed leaves and soil.

Good Hiding Spot

After finding an area that is being used frequently, your next step is to locate a good hiding spot nearby. Turkeys seem particularly wary when approaching a feeding site, so you must be hidden or remain absolutely motionless. Then you sit and wait. And wait . . . and wait. Spending countless frustrating days in blinds, while attempting to trap turkeys for banding, has taught us not to trust their regularity.

The roost seems like an easier spot to bushwhack a turkey, but it hasn't proved that way to most hunters. The experience of a hunting party who put a flock of several dozen turkeys to bed last fall is an example. After carefully mapping their strategy before daybreak, the five hunters surrounded the area, except for one section which the turkeys were considered certain to avoid. The flock left the roost at sunrise as scheduled—via the one unguarded gap. A few hardy hunters who have spent the night under roost trees report turkeys aren't above using the old leave-the-roost-in-the-middle-of-the-night trick either.

The second hunting method is tracking. It can be more productive than waiting in ambush, and better for your physical fitness, too. Although turkeys can be followed for short distances from fresh scratching by skilled trackers, snow is necessary for most of us. And if you have geared all your hopes to bagging a turkey by tracking,

a snowless season can be hopelessly frustrating.

When snow finally falls, turkeys seem to prefer remaining on the roost for awhile just to make sure the nasty weather has passed before flying down to make tracks. So even if you know where the turkeys are, their tracks aren't apt to be found until a day or so following a snowfall. Because most snows during the turkey season thaw quickly, you must make "hay" *before* the sun shines.

Large Harvests

Following those rather rare autumn snows that may accumulate to moderate depths, large turkey harvests have occurred when hunters converge on an area of high turkey density. A large flock is tracked down, scattered, and sometimes caught in a cross fire. This is legal, so long as the number of hunters cooperating doesn't exceed five, but it certainly isn't sport. It can be more sporting, however, if one hunter takes the track while his buddy (or buddies) circles out ahead to wait where the turkey is likely to cross.

The lone tracker needs the most ability. He may also need a topographic map and compass (valuable tools for all methods of turkey hunting) when in unfamiliar territory. No telling where the tracks might lead before the hunter scores or gives up.

Although we have tried tracking and stalking in years past, we were unsuccessful, except for a couple of misses on birds bursting out of hiding in the laurel. Our experience has shown turkeys are more difficult to approach on snow simply because of the increased visibility contrast.

Neither is there a turkey at the end of every track. Many times we have tracked birds across the top of a broad plateau or ridge, expecting to catch sight of them at any moment. Our hopes always soared when we reached the edge, hoping to surprise them at close range as we peeked over, but invariably—nothing. Their tracks ended and wing feather marks to either side

told what happened, but gave no clue as to which direction they flew.

This reminds us of an old Bedford County turkey hunter who once said, "Snow turns turkey hunters into turkey chasers." We do know one hunter who claims rather consistent success by slowly following the track of a single bird and trying to anticipate its hiding place in the cover ahead. Apparently when not hard pressed, a lone turkey tends to hide rather than fly or run off at top speed, and sometimes it can be approached within shotgun range before flushing.

Actually, the greatest value of snow during the turkey season is to arouse hunters' enthusiasm to hunt harder. Even though we have never bagged a turkey by tracking him down, hope springs eternal, and we still can't resist following fresh tracks. We have successfully called birds back to us while following their tracks, however, and often used tracking to locate and scatter flocks for calling.

Learning to Call

This brings us to the most sporting means of all, luring turkeys by calling. Because it is also the most effective, as well as the most thrilling, it's hard



FEW HUNTING THRILLS can match the moment when a Pennsylvania gunner realizes that he has bagged the biggest game bird in the state.

for us to understand why so many turkey hunters persist with other hunting methods.

Turkey calls are available in a wide choice of types and price or, for extra satisfaction, you can make one. All of these turkey calling devices fall into three basic categories—hand-operated, mouth-operated and electronic. Electronic tape or record players, which are illegal for turkeys in Pennsylvania, offer no significant advantage over conventional callers. Nearly all of the different words in turkey talk can be duplicated by the mouth-operated types; and with the small rubber diaphragm preferred by many expert callers, your hands are completely free to hold a gun. The hand-operated or friction types are easier to master, and a well-tuned box call of this type is hard to beat for phonic quality and volume.

We don't intend to leave the impression that flawless operation and a perfectly tuned instrument are absolutely necessary for luring turkeys. We have heard too many genuine turkeys that sounded like hunters with off-key calls. This proves you can get by with much less ability, but for confidence to dupe the wariest birds, you must practice for perfection. Phonograph records are helpful for demonstrating various calls. As a beginner, you should concentrate on the most important "come hither" word—the yelp—because this is usually the only call needed to lure turkeys. Later you can learn the whistles, whines, clucks, etc., that you may need on occasion to assure an ultra-wary bird.

Obviously, the object in calling is to entice turkeys to come to you, but seldom will an intact flock respond to a call. Therefore, the flock must be found and be broken up before you can take advantage of the individual bird's gregarious nature of wanting to get back together again.

There are two variations to the technique of hunting with a caller. One involves walking through the woods and pausing occasionally to call without

knowing the location of a flock of turkeys. Hopes hinge primarily on attracting lonesome, scattered birds. This is the way our hunts usually begin unless we have more specific knowledge that a flock was recently broken up by other hunters. It requires much walking to locate turkeys, but we stop frequently to sound a few yelps. It's a most relaxing way to hunt, besides being good for the soul by giving us a chance to contemplate nature and the beauty of the forest.

Your calls aren't answered very often in this type of hunting, but the occasional pleasant surprises are worth it. If you hear a barrage of shots, the odds can improve. Other hunters may have scattered a flock and if you move in their direction it may be possible to call in a single from the periphery. Disturbance from other hunters isn't so critical as in the spring season when two make a crowd, but your chances of calling a turkey in the fall season are also better if you can avoid competition.

Locating Flocks

The remaining method of hunting, calling to known scattered flocks, is the surest bet of all. But if you haven't heard, via the hunter's grapevine, where others might have scattered a flock, finding one to break up can be difficult. Although there may be 100 or more turkeys in a 10-square-mile stream valley, all may be bunched up into only five flocks. Finding one of these flocks is like searching for an individual turkey on two square miles.

Without the benefit of snow to find their tracks, we prefer dry to wet weather for hunting. This may be contrary to what you have always heard, but we have found turkeys seem more alert when the woods are quieted by rain or snow. Our studies of turkey behavior from blinds indicate their keen eyesight predominantly triggers the alarm reaction. Although turkeys appear to have more than adequate hearing, they practically ignore foreign noises. Not only are turkeys no more



SOMETIMES, of course, they get away!

difficult to approach when leaves are dry, but you can also locate a feeding flock as far as 200 yards away by the sound of their scratching. On dry, quiet days especially, it pays to walk slowly, stop often, and look and *listen* carefully.

Scattering the Flock

After the flock has been located, try to stalk as closely as possible without being seen. Then make a dash to close the gap a little further. Occasionally, the element of surprise is so great that the hunter is able to run in among the rattled birds. But usually the turkeys have already seen you and are moving off well out of range.

If they run or fly away in a group you may have problems calling them back. It's best to follow immediately for a few hundred yards in hopes they were sufficiently scattered at the end of their flight for you to get among them. If they scatter to the four winds, you are really in business. Then you can stand pat and wait for perhaps another 15 minutes or so before beginning to call.

We can't overstress the importance of selecting a good place of concealment and not calling until you are

well hidden. Turkeys have almost run down our gun barrels before the echoes of the first yelps from our calls had faded. And we have snatched defeat from the jaws of victory several times in our earlier hunting years simply because we couldn't resist watching the thrilling spectacle of a bird coming to the call. But now we keep our grayer or balder heads down and are just as thrilled listening to their clucks, putts and whines at close range.

The best location to hide is the brow of a hill or similar terrain where a turkey coming from any direction can't see your position until he's in good range—within 40 yards. Avoid brush or big boulder piles because turkeys do. The best is the natural depression, or "foxhole" left from an upturned tree, long since rotted. If you can't find one of these, lie flat beside a log or a low spot in the forest floor. The story that turkeys can't be called downhill has truth, largely because they have the advantage of height and are more likely to see the hunter. If you are well hidden from an uphill bird, he will usually come down to you—sometimes on the wing—so be ready.

Some veteran hunters insist calling must be done sparingly, such as three yelps to a series and at least a 15-minute wait between. We haven't found this to be necessary or desirable in the fall season. In fact, if we had adhered to a 15-minute, or even a five-minute, interval, without answering, some birds would have passed by out of range. We figure the turkey calls because he needs further direction and/or assurance, and the least we can do is oblige. Birds have yelped almost every step of the way and we have answered call for call. If you are a beginner, however, it might be best not to push your luck and overdo it until you have more confidence in your calling ability.

Our first calls are usually loud and the series longer—up to eight yelps—because the birds are farther away. As they answer and approach, the volume and length of the series are reduced. When turkeys are close, we may include a few clucks. Don't always count on the birds to answer while they are coming in, particularly if they have been hunted rather hard. Old toms don't often come to a call during the autumn season, but when they do they are apt to slip in silently and catch you unaware.

Never take an answer for granted. Too many times a hunter, who thought an answer was another hunter with a lousy sounding call, has laughingly stood up from his hiding place to face an equally surprised bird. Also, some hunters aren't aware that it is next to impossible to stalk a calling turkey. So always be on the alert for a "sneaking hunter" while you are calling. Although shooting a man in mistake for

a turkey defies comprehension, it happens. As an extra precaution when calling, some hunters wear blaze-orange caps. More will probably adopt this practice in the future.

The Best Hour

The best times to call turkeys are within an hour after they were scattered; if that fails, try them again during the last hour of daylight. Many hunters have already quit and gone home, but in our opinion this last hour is worth almost as much as the rest of the day. Judging from the eager manner they will often answer the call, turkeys seem to dread spending the night alone. If you don't score then, you still have another chance tomorrow morning, but be there when the stars are turned off.

And now we are also down to the "last hour" in this article. The fact you have stayed with us is a good sign. This display of interest and perseverance proves you have what it takes to become a good turkey hunter.

Traditionally, turkey hunters have been a tight-mouthed lot in divulging secrets. But because we want the beginner to share in the same thrills, we have tried to tell you everything we recall learning from other hunters and from our own experience. To do this we were forced to debunk some long-standing notions about turkey behavior, and some veteran turkey hunters won't agree with all we have said. Some may even have developed hunting methods superior to those described herein. If so, we are glad they have, just so they are legal and in keeping with the sporting tradition of turkey hunting.

Makes for Many Mice

Female meadow mice are ready for motherhood at the age of 30 days and capable of producing litters of five to nine offspring each month.

Pennyroyal Tea Time!

By Ken Calnon

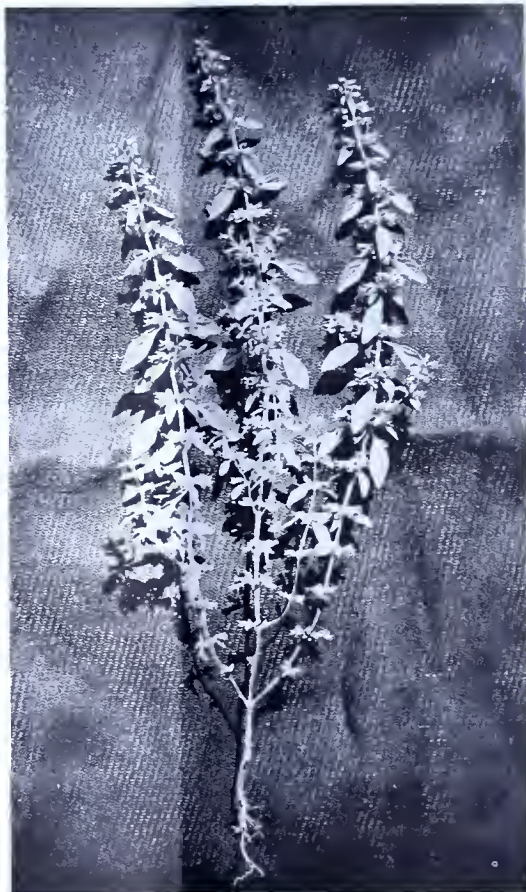
THE DAY WAS bright and sunny, with just a touch of autumn in the air—one of those days that you wish would never end. We were enjoying the fine weather and also picking pennyroyal tea. We had found several good stands of tea and each member of the family carried a neatly tied bunch—an ample supply for the winter months ahead. Pennyroyal is a favorite drink at our house, and even when we were kids at home, Dad always had a bunch or two hanging on a nail, drying.

Common Plant

This tea is a common plant of old fields, roadside banks and woodland trails. The plant is bright green in color and is six to 12 inches in height. The leaves are short and oval. If you are not sure of its identity, smell it—it has a distinctive menthol odor. In July and August the plant pushes forth its very small blue flowers. In September, after the plant is finished blooming and has dropped its seed, it can be gathered. Pull the complete plant from the ground, roots and all; this doesn't harm next year's crop.

Drying the tea can be done by two methods. One—tie the tea in "bunches" by the roots and hang it up to dry. The tea can be cut from the bunch as needed. Two—use a scissors and cut the tea into small pieces. Then spread it on trays and dry it in the sun or over a radiator. When the tea is dry, store it in jars or coffee cans with plastic lids, for use during the long, cold winter.

To prepare the tea, bring the required amount of water to a good rolling boil. Remove the water from the heat. Then take a handful of tea (use the trial and error method until



Pennyroyal tea

you hit the right amount to suit your taste) and drop it into the boiling water and let it steep. The amount of time allowed for steeping is determined by how strong you like your tea. Pour the tea through a small strainer to remove the leaves. Serve in the same manner you would any other tea.

The time to enjoy a brisk cup of pennyroyal tea is when Old Man Winter is howling and the temperature is down in the teens. It is a great cold weather drink. Try it. I'm sure you'll agree.

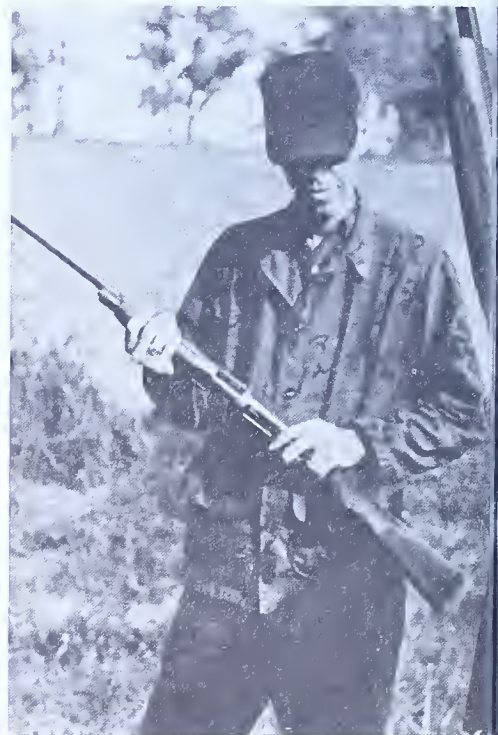


DOVE HUNTIN' in Pennsylvania normally includes a lot of time spent squatting in fencerows, trying to look like an innocent stump or some other part of the natural scenery, while your neck—and your dog's, if you have a good one—gets a crick from staring upward, trying to spot the incomers in time to get off a shot.



Dove

"THE TROUBLE with and too darn fast!" according to last September. But he he was trying to say was fliekery, quicksilver targets slip derisively through your 7½s and slide effortlessly through the honeysuckle-hung tree row in the small field you're watching. A litter of shiny fired 12-gauge glances of your puzzled redoubts: *doves are too darn little and*

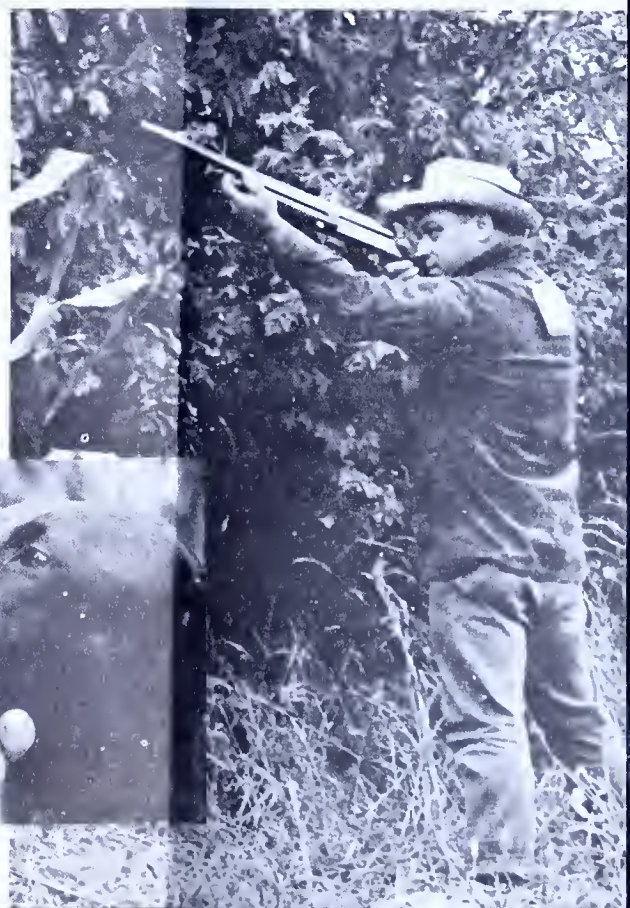
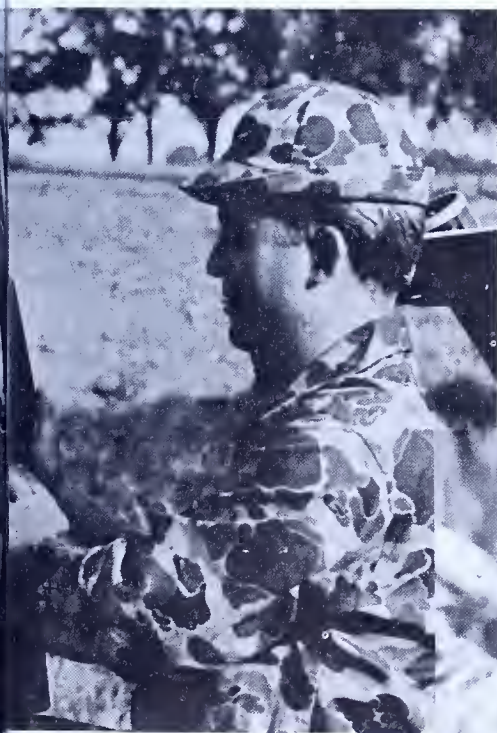




hunting'

...es is, they're too dam little
...ding to one gunner I talked
...dn't really mean that. What
...at doves are small, tricky,
...at appear out of nowhere,
...te-swung pattern of chilled
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...arding the far side of the
...aving you surrounded by a
...lls, suffering the bewildered
...ever. Come to think of it,
...o dam fast!

IF YOU SHOOT often enough, you're gonna down some doves. They're not impossible to hit—it just seems that way at times. For fast swinging, a short barrel such as on the bob-tailed, Poly-choked Browning below, works fine, but for long-range pass shooting a 28" full choke tube is preferred by many.





FIELD NOTES



Poorly Prepared

McKEAN COUNTY — During the spring gobbler season a hunter told me one of his buddies was lucky enough to call in a turkey but could not see a beard on the bird. The hunter watched the turkey for quite a while before letting it walk out of range and go on its way. It seems that the hunter was looking for the gobbler's beard under the chin, where he thought it should be, rather than on the breast where it actually was.—District Game Protector J. E. Rankin, Port Allegany.

Thanks

CAMBRIA COUNTY — Thanks to the efforts of a dedicated and hard-working deputy force, hunting lands are made available to hunters and game is preserved for them by long hours on patrol, both night and day. I take this opportunity to thank each and every one of my deputies for their cooperation with me, the landowners and the interested sportsmen of northern Cambria County.—District Game Protector E. N. Gallew, Ebensburg.

Job Well Done

ROSS LEFFLER SCHOOL OF CONSERVATION — This past spring a number of hunting camps in the vicinity of Canton and Troy, Bradford County, got together and picked up the litter along some of the roads on Armenia Mountain. Each camp selected a road and cleaned the ditches and banks of last year's litter. These men should receive all our thanks.—Trainee Gary W. Packard.

Goodies for Game

JUNIATA COUNTY — Mother Nature sure came on strong with a plentiful supply of food for our game birds this summer. A short walk through any wooded section will reveal the plentiful presence of what is commonly called the "17-year locust." This winged insect is actually a cicada, and large round holes in the ground will reveal where it emerged from its earthly home. After emergence it crawls up a bush, weed or tree and sheds its outer hard shell and then crawls or flies to a nearby tree where the male "sings" by vibrating his stomach membranes and the female makes holes in tips of branches and lays her eggs. Being fairly passive by nature, they provide a bountiful food supply for game birds, and when they fall into streams they furnish a good diet for game fish. With the high number of these insects in evidence, I envision a summer of big fat quail, grouse, ringnecks and turkey and a river full of pot-bellied bass. Hope I'm not disappointed.—District Game Protector R. P. Shaffer, Mifflintown.

Good Thinking

ALLEGHENY COUNTY — We should have one miserable day at the end of each month; this paperwork is twice as bad when the sun is shining outside. — District Game Protector R. B. Belding, Baden.

Get Away From It All

CUMBERLAND COUNTY — I received a call recently from a Mechanicsburg resident that he and a friend, while clearing off a wooded lot, came upon a groundhog caught in the fork of a tree. Upon investigating, sure enough, about 25 feet up was Mr. Groundhog—or should I say “Treehog”?—District Game Protector J. P. Filkosky, Mechanicsburg.



Grow From Seeds?

BEDFORD COUNTY—We are in the midst of the appearance of the “17-year locusts” and all the nearby trees and one side of our house are covered by these insects. I have mentioned this to a few people and one friend suggested I could get rid of them if I would cut down the locust trees that are growing behind the house.—District Game Protector C. J. Williams, Bedford.

Extra Effort

CLEARFIELD COUNTY—On May 15, two defendants were found guilty in the Clearfield County Court of possessing a deer unlawfully taken. The charge stemmed from an incident on October 25, 1969, when two New York State archers witnessed two men dragging a deer while in possession of a 22-caliber rifle. The defendants had been hailed by the witnesses, whereupon they fled, leaving the deer behind, only to be seen again after a two-hour vigil by the witnesses, as they returned to their car which had been parked nearby. Positive identification was made in court by one witness who had taken a day off work to be present at the trial. For a man to realize his responsibility to help insure his hunting future in another state deserves some comment, and when he sustains even greater personal hardship to assist in seeing that justice is fulfilled, I believe this deserves more commendation. A tip of my hat to a nonresident sportsman.—District Game Protector J. R. Furlong, Ramey.

HST—The Real Wrench

ERIE COUNTY—While visiting a sporting goods store recently, I noticed a helpful hint tacked on the wall near the gun racks. It stated as follows: “If your firearm is not functioning properly, **FIRST CHECK THE NUT BEHIND THE BUTTPLATE.**” It is interesting to note that the same nut is responsible for not only malfunctions of the firearm but also any misuse, abuse and destruction caused by firearms. There is of course a solution to the problem. It is a large wrench made to fit this nut. It's called Hunter Safety Training. The adjustments available through the use of this wrench are sometimes remarkable.—District Game Protector R. L. Sutherland, Erie.

We're Rooting for You

CLARION COUNTY—On a recent survey of the Clarion River, DGP Harshbarger and I found eight different species of fish life as follows: perch, catfish, rock bass, black bass, two species of chubs, brook trout and rainbow trout. Take heed fellow sportsmen, with a little effort we may again make the Clarion River into a recreational paradise. It sure is worth looking and working for. — District Game Protector A. Pedder, Clarion.



A Better Mouse Trap

SULLIVAN COUNTY — J. A. Renshaw, a local dairy farmer, told me that his children had acquired a pet raccoon several years ago, and the highlight of the raccoon's day was the trip to the barn at chore time. Mice had congregated in the baled hay, and each time a bale was disturbed, the mice would scurry for the safety of a new bale. The raccoon made certain that many mice never gained safety. Mr. Renshaw told me that at one time he saw the raccoon with a mouse in each front paw, two in its mouth and attempting to catch another with its hind foot. This is what I would call a *super* mouse trap! — District Game Protector D. J. Adams, Eagles Mere.

Youth Against Pollution

FRANKLIN COUNTY — Lately everyone seems to be talking about conservation and how our environment is being destroyed by man's ambition, technology and innovation. Also, many adults condemn our young people for what a very small percentage do. Here in Chambersburg we have a new group, Y.A.P. (Youth Against Pollution), who are doing more than just talking about cleaning up our environment. These students have spent many hours putting into practice what many adults just talk about—cleaning up our streams and areas. These same young people could just as easily be out having a good time, as they are constantly accused of, but they are concerned about pollution and are doing something about it. — District Game Protector J. D. Mort, Chambersburg.

It'd Be Flat as a Flitter

CLEARFIELD COUNTY — Ed Kline of Pine Glen has a new car with a very large rubber-like front bumper. While driving from Moshannon to Renovo on Route 144, Mr. Kline was forced to stop his automobile because of a young button buck standing in the middle of the highway. Suddenly, the young buck charged and rammed the front of the automobile with his head, only to bounce off the front bumper. The buck repeated this charge two more times and on the third assault did some damage to the side of the automobile. Just as suddenly as he had appeared, the young buck gathered himself together and trotted off into the woods. Mr. Kline's explanation for the attack was that his automobile probably looked something like a monster to the deer. I wonder what would happen if Mr. Kline had to drive his automobile through elephant country? — District Game Protector C. L. Keller, Clearfield.

Suicidal Tendencies?

UNION COUNTY—Bill Heim of Lewisburg and some friends were fishing in Penns Creek one evening in early May. They had a small fire along the stream bank on which they planned to roast hot dogs. As Bill stood near the fire, two very small ducklings came swimming up to the bank, waddled out of the water and went directly into the fire. Acting very quickly, Bill removed both ducklings from the fire and placed them back in the water. No sooner had he done so than they were right back to the bank and up into the fire again. He again removed them and this time took them down the stream quite a ways. Bill couldn't decide whether they wanted to get warm or become roast ducklings.—District Game Protector J. S. Shuler, Lewisburg.



Makes an Easy Decision

HUNTINGDON COUNTY—Apparently the spring turkey season has opened new horizons to Pennsylvania sportsmen. In the past they were faced with the dilemma of choosing a hunting or fishing vacation. Now many of them plan a May vacation and combine early morning turkey hunting with late afternoon and evening trout fishing. It seems to me this kind of holiday is hard to beat.—CIA H. W. Bower, Huntingdon.



Determined

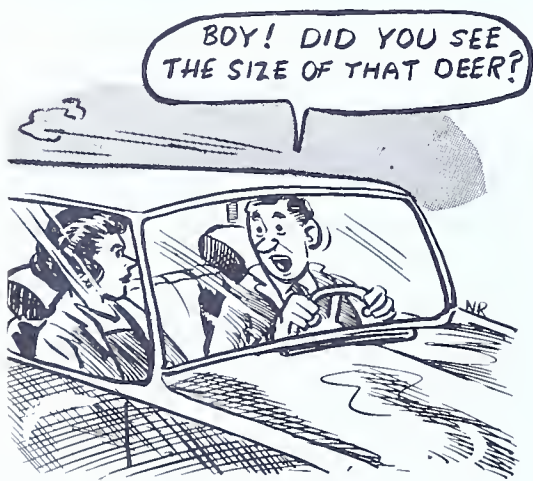
BUTLER COUNTY—On coming home one afternoon, I was approached by my 8-year-old son Todd, who announced that he had caught a Massasauga rattlesnake in our backyard. Knowing that this type of snake does frequent the area, I checked the snake which he had captured in a Mason jar, and found it actually was a small rattler. After hearing a lecture on the dangers of small boys fooling with poisonous snakes, he donned a pair of his mother's winter boots, went back to the same place and found another rattlesnake of the same size.—District Game Protector W. N. Weston, Boyers.

Chuck Hunters—Read This

BRADFORD COUNTY—It is too bad that a few of the woodchuck hunting fraternity feel they have to show off their hunting success. You see and *smell* their trophies hanging on fenceposts along the roads. There have been incidents where the unthinking hunters have returned to their car parked by the farmer's house and cleaned out their kill there. Many farmers are glad to have sportsmen harvest the woodchucks in their fields, but some hunters quickly outwear their welcome.—District Game Protector A. D. Rockwell, Sayre.

Confused Cottontail

LEBANON COUNTY—A farmer in South Lebanon Township reported that after moving a cultipacker a distance of about a quarter mile he saw a dizzy rabbit running from within an open end. It was not established if the rabbit used it like a tread wheel or just rolled around with it.—District Game Protector P. A. Hilbert, Cleona.



Another Problem

CUMBERLAND COUNTY — One morning recently I received a call from a passing motorist that there was a dead deer on Route 11 near the Pennsylvania Turnpike Interchange. This being a routine assignment, I did not give it much thought as I drove to the area described. Upon my arrival, a truck from the local rendering plant was just pulling away from where the deer was supposed to be. I stopped it and asked the driver whether he had picked up the deer in question. He replied that he did not pick up a deer but had just picked up a donkey from where the deer was supposed to be. Checking the back of the truck revealed a full-grown donkey which had been struck and killed by a car.—District Game Protector E. F. Utech, Carlisle.

Good Questions

ROSS LEFFLER SCHOOL OF CONSERVATION—I was amazed at the interest shown by the Brockway sixth graders during the Conservation Day presentation at the Ross Leffler School of Conservation. I feel that I benefited as much by the experience as the students did. Questions ranged all the way from, "Why don't woodpeckers get headaches?" to, "What color are cardinal eggs?" The increase of conservation awareness in today's youth is of great value to both the long and short goals of conservationism.—Trainee James E. Deniker.

But Did He Go?

CARBON COUNTY — Deputy Ed Becker recently was asked if he were the man that picked up the dead deer. Ed said he was the man. The caller then told him her horse had died about a week ago and she would like him to come and get it. Now, Deputy Game Protectors are dedicated men, but really, isn't that carrying things a bit too far?—District Game Protector C. E. Burkholder, Weatherly.

Hard to Answer

A male black bear weighing 441 pounds was struck by an auto and killed on Interstate 81 near Nuangola. CIA Steve Kish was at Deputy Casterline's home taking pictures and overheard a little girl asking her mother why the "game wardens" didn't take the bear to a hospital. Her mother explained that bears aren't taken to hospitals where people are cared for, after which the concerned little girl asked, "Well, why don't they take it to a bear hospital then?" Steve says the mother was still answering questions as she and the child got into their car and drove away.—CIA Robert W. Nolf, Conyngham.



CONSERVATION NEWS



Goose Blind Applications Accepted September 1

APPPLICATIONS for hunting from goose blinds at the Pymatuning Waterfowl Area in Crawford County will be accepted from September 1 through October 1.

Ray M. Sickles, waterfowl management agent, said 40 blinds, each accommodating four persons, will be available for the 1970 season.

There will be four shooting days each week of the season, Monday, Wednesday, Friday and Saturday. Forty blind holders will be selected for each shooting day of the season. Since each blind holder is allowed three guests, 160 hunters can utilize the area each shooting day.

The following regulations apply:

Reservation requests must be made on official application forms and must be submitted to the Pennsylvania Game Commission, Pymatuning Waterfowl Area, RD 1, Hartstown, Pa. 16131.

Only one application may be submitted per person.

The applicant's 1970 hunting license number, including the letter, must be listed on the application.

Applications must be postmarked September 1 through October 1; any postmarked earlier or later will be rejected.

A drawing will be held in early October to determine the successful applicants. Only successful applicants will be notified.

Registrations are not transferable. The successful applicant whose name appears on the reservation must present the reservation in person at the Pymatuning Waterfowl Area headquarters (registration building) located on Route 285 between Hartstown and



PGC Photo by Bob Parlamen

Linesville about four miles north of Hartstown.

A reservation will entitle the applicant to bring not more than three guests with him. Guests will be present and register.

Hunters shall be limited to one visit per hunter per season on the goose area.

Hunters should arrive at least one hour before shooting time to allow for the issuance of permits; 1970 hunting licenses must be presented at the check station.

All reservations for any one day will be valid only up to one-half hour before shooting time on the specified day.

Shootings hours for the Pymatuning goose blinds are from one-half hour before sunrise until noon prevailing time.

Season dates and bag limits will be established later.

Applications for hunting from the Pymatuning goose blinds are available from the Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa. 17120; or any of the six Field Division Offices of the Pennsylvania Game Commission; or from any Game Protector; or the Pennsylvania Game Commission, Pymatuning Waterfowl Area, RD 1, Hartstown, Pa. 16131.

In addition to the goose shooting area, there are also three controlled duck shooting areas at Pymatuning. Fifty hunters can be accommodated in each of these three duck areas, making it possible for 150 hunters to utilize

the duck areas on shooting days for this species.

Shooting days for the duck areas are the same as for the goose area, that is, Monday, Wednesday, Friday and Saturday. Shooting hours in the duck areas are the same as in the goose area. Geese may not be taken in the controlled duck shooting areas.

While the duck areas are controlled shooting sections, there are no advance reservations. Shooters are eligible on a first come, first served basis on each shooting day. Those using the duck areas must check in at the registration building, the same as goose hunters.

PENNSYLVANIA GAME COMMISSION
SUMMARY
1970 SEASONS AND BAG LIMITS
DOVES, RAILS, GALLINULES, SNIPE, WOODCOCK

Species	Open Seasons		Daily Bag Limits	Maximum Possession Limits
	First Day	Last Day		
Doves	Sept. 1	Nov. 9	12	24
† Rails (Sora and Virginia)	Sept. 1	Nov. 9	25*	25*
Gallinules	Sept. 1	Nov. 9	15	30
Wilson's or Jacksnipe	Sept. 14	Nov. 17	8	16
Woodcock	Oct. 17	Dec. 19	5	10

† NO OPEN SEASON—King and Clapper Rails.

* Singly or in the aggregate of species.

SHOOTING HOURS

Doves—12 noon, prevailing time, to Sunset.

Rails, Gallinules, Snipe, Woodcock—One-half hour before Sunrise to Sunset (Except on October 31 when the opening hour will be 9 a.m., EST).

MISCELLANEOUS REGULATIONS

FEDERAL MIGRATORY BIRD HUNTING STAMP ("DUCK" STAMP) **NOT REQUIRED TO HUNT DOVES, RAILS, GALLINULES, SNIPE, WOODCOCK. BOW AND ARROW, SHOTGUN PLUGGED TO NO MORE THAN 3-SHELL CAPACITY ARE LEGAL; RIFLES AND PISTOLS ARE PROHIBITED. NO HUNTING ON SUNDAY.**

Nuisance Bears Will Be Removed

The Pennsylvania Game Commission plans to continue its program of trapping and transferring black bears which are making a nuisance of themselves.

Although there is an apparent shortage of bears in the northcentral part of the state which prompted the Game Commission to close the season on bruins this year, it is known that in some scattered areas there are concentrations of bears which are likely to become "pests." These bruins can be expected to make a nuisance of themselves around garbage dumps, beehives, possibly in cornfields, etc.



Dale E. Sheffer



Harvey A. Roberts

Two Game Commission Division Chiefs Named

TWO NEW division chiefs have been named by the Pennsylvania Game Commission. Harvey A. Roberts is now chief of the Division of Land Management, and Dale E. Sheffer chief of the Division of Research.

A World War II Army veteran with service in the South Pacific, Roberts holds bachelor's and master's degrees from the University of Alaska. Roberts, a native of Harrisburg, has been with the Game Commission since 1948, having served as an assistant research project leader, senior research technician, a game biologist, acting chief of the research division, and chief of

the Division of Research since 1959. Roberts succeeds Samuel J. Kern, who retired as chief of Land Management on July 16.

Sheffer, a native of Gettysburg who served in the Army in Germany, holds bachelor's and master's degrees from the Pennsylvania State University. He has served with the Game Commission since 1958 as a game biologist. Prior to his Game Commission service, he was a wildlife field superintendent for three years with the Maryland Game and Inland Fish Commission. Sheffer succeeds Roberts as chief of the Division of Research.

Triple Trophy Award Suspended

The Triple Trophy Award program will be suspended for the 1970-71 hunting license year. The Triple Trophy Award has been offered to those who harvest an antlered white-tailed deer, a black bear and a wild turkey during a single hunting license year. Because of an apparent shortage of bears in the northcentral part of the state, the Game Commission closed the bear season for 1970. Since it will not be legal to take a bear this year, it will not be possible to complete the requirements for the Triple Trophy Award.

Antlerless Deer License Procedures Are Outlined

COUNTY TREASURERS throughout the state will begin accepting applications for antlerless deer licenses on September 21. They will start issuing the licenses on Monday, November 9. Dates for the 1970 antlerless season are December 14 and 15.

Each county treasurer decides how applications are to be received and how licenses are to be issued for his own county. The treasurers operate within general rules agreed to by the County Treasurers Association, the Pennsylvania Revenue Department and the Pennsylvania Game Commission.

The cost of an antlerless deer license is \$1.15, and may be issued only to a holder of a current valid resident, nonresident or alien hunting license. If the antlerless license is to be mailed, the remittance should include an additional twelve cents for postage.

Nonresidents may not be issued an antlerless deer license this year before November 14.

Each application for an antlerless deer license must show the 1970-71 hunting license number. Some county treasurers require that envelopes containing applications be marked "Ant-

lerless Deer Applications" or "Doe Applications," as well as the number of applications in the envelopes.

Application forms are available from any license issuing agent, county treasurer or the Pennsylvania Game Commission.

An antlerless deer license is valid only in the county in which it is issued. Only county treasurers are authorized to issue antlerless licenses.

Each county's quota of antlerless licenses was established by the Game Commission in June. Statewide, 338,500 antlerless licenses were authorized for this year by the Game Commission. The quota is 40,500 less than last year's authorization.

Pennsylvania residents who are members of the armed forces on full-time active duty or who have been honorably discharged within 60 days of the date of application may be issued antlerless licenses by county treasurers even though the county's quota of licenses has been exhausted. These licenses are available only to individuals who could not anticipate military leave or discharge and file applications for antlerless licenses during the regular filing period.

County treasurers do not issue free antlerless licenses to anyone, servicemen included.

The Game Commission has urged all county treasurers to promptly return applications to the senders after the county's allocation of antlerless licenses is exhausted. This will permit hunters to send applications to other counties where antlerless licenses are still available.

The following table summarizes the procedures established by the various county treasurers for receiving applications and issuing antlerless deer licenses for 1970. The number in parentheses indicates the maximum number of applications that will be accepted from any one individual, either by mail or in person.



Photo by Leonard Lee Rue, III

How to File Application for 1970 Antlerless Deer Licenses

APPLICATIONS ACCEPTED IN PERSON ONLY

(Licenses will be mailed)

Clinton	(2)
Elk	(6)
Mercer	(4)
§Susquehanna	(6)
Venango	(3)

APPLICATIONS ACCEPTED BY MAIL OR IN PERSON

*(Licenses may be picked up in person or
will be mailed)*

Beaver	(6)
Chester	(6)
Delaware	(6)

(All licenses will be mailed)

Adams	(6)
Allegheny	(6)
Bedford	(5)
Butler	(4)
Cambria	(6)
Cameron	(6)
Carbon	(2)
Crawford	(6)
Erie	(3)
Fulton	(4)
Huntingdon	(6)
Jefferson	(6)
Juniata	(6)
Lancaster	(6)
Lawrence	(6)
Lehigh	(6)
Lycoming	(6)
McKean	(6)
Mifflin	(6)
Montgomery	(6)
Montour	(6)
Northumberland	(1)
Tioga	(6)
Warren	(6)
Washington	(6)
Wayne	(6)
Wyoming	(3)
York	(4)

APPLICATIONS ACCEPTED BY MAIL ONLY

(Licenses will be issued by mail only)

Armstrong	(6)
Berks	(1)
Blair	(1)
Bradford	(6)
Bucks	(6)
Centre	(6)
Clarion	(2)
Clearfield	(6)
*Columbia	(1)
Cumberland	(1)
Dauphin	(1)
Fayette	(4)
Forest	(6)
Franklin	(2)
Greene	(6)
Indiana	(1)
Lackawanna	(6)
Lebanon	(6)
Luzerne	(6)
Monroe	(1)
Northampton	(1)
Perry	(2)
†Pike	(6)
Potter	(6)
Schuylkill	(4)
†Snyder	(1)
Somerset	(2)
Sullivan	(6)
Union	(6)
Westmoreland	(2)

All envelopes must be marked "Doe Applications" or "Antlerless Deer Applications" and number of applications enclosed.

Return address *must* be on the outside of all envelopes or application will be voided.

*2000 applications over the counter only; 1550 by mail only.

†Over the counter from Pike and Snyder County residents. Mail *ONLY* from out of county residents.

§Over the counter or by mail from Susquehanna County residents. Over the counter *ONLY* from out of county residents.

Applications will be accepted only on and after Monday, September 21, 1970. All licenses will be issued on and after Monday, November 9, 1970.

Numbers in parentheses indicate number of applications accepted from one party by County Treasurer. Compiled by the County Treasurers Association.

Note: When mailing in application, be sure to include 12c return postage!

Triple Trophy Awards Earned by 32 Hunters



Photo by Bob Clever

BURT SCHUCKERS, Warren, Pa., receives his Triple Trophy Award from CIA Bob Parlaman. Schuckers bagged his bear and turkey in Warren County, his buck in Elk County.

THE Pennsylvania Game Commission's Triple Trophy Award was earned by 32 hunters during the 1969-70 seasons, according to Information and Education Chief Roy W. Trexler.

The Triple Trophy Award is available to hunters who take a wild turkey, an antlered white-tailed deer and a black bear during the same hunting license year. This is the fourth year for the award. Altogether, 250 Triple Trophy Awards have been presented. Of the 32 winners during the past year, eight completed the requirements for their awards during the spring gobbler season.

The relatively low number of black bears taken in the state last fall, 295, undoubtedly had a bearing on the lower number of award winners. There will be no Triple Trophy Awards during the next hunting license year, since there will be no bear season in 1970.

Trexler said that one hunter who won a Triple Trophy in the second year of the program qualified for his

second award during the past year. He was Robert L. Craig of RD 1, Milan. Only four other hunters have won the award twice.

One nonresident hunter qualified during the past year, Larry V. Fila of Ferndale, Md. Previously, two other nonresidents were award winners. The past year also saw the youngest boy qualify for a Triple Trophy, 13-year-old Pat Malloy of Star Route, Sheffield.

No women were on this year's list. Only one woman has ever won the Triple Trophy.

The following are the winners of the Triple Trophy Award for the 1969-70 hunting seasons:

Berzansky, Paul—P. O. Box 176, Wood, Pa.
 Binotto, John—RD 1, Box 21, Vanderbilt, Pa.
 Blaine, John G.—Blooming Grove, Hawley, Pa.
 Craig, Robert L.—RD 1, Milan, Pa.
 Fila, Larry V.—1013 Fifth Street, Ferndale, Md.
 Froebel, Robert E.—92 First Street, Galeton, Pa.
 Harvey, Roger W.—RD 3, Shickshinny, Pa.
 Hetrick, William R.—RD 1, Weedville, Pa.
 Igou, John C., Jr.—RD 3, Box 511, Altoona, Pa.
 Kauffman, Russell J.—RD 2, Conestoga, Pa.
 Knepp, Lawrence E.—170 Harrison Road, Pleasant Gap, Pa.
 Konopka, Gerard C.—146 Nesbitt Street, Larksville, Plymouth, Pa.
 Krause, Leslie A.—RD 3, Pine Grove, Pa.
 Lanich, Howard G.—RD 1, Clearfield, Pa.
 Loch, Harold P.—Green Street, Walnutport, Pa.
 Malloy, Patrick—Star Route 148, Sheffield, Pa.
 Mattison, Donald—RD 2, Middlebury Center, Pa.
 Miller, Carl J.—RD 2, Box 203, Bedford, Pa.
 Moore, Robert E.—RD 1, Frenchville, Pa.
 Phillips, Ralph E.—Dalmatia, Pa.
 Reeder, Guy H.—607 Bennett Street, Montoursville, Pa.
 Schuckers, Burton—70 Mohawk Avenue, Warren, Pa.

Sebring, Robert—RD 3, Danville, Pa.
Sforza, John—6628 Lynford Street, Philadelphia, Pa.
Shedden, Leo—RD 1, Troy, Pa.
Sohonyay, Alexander—58 Egypt Road, Laurys Station, Pa.
Stitt, Roy W.—RD 2, Box 214, Altoona, Pa.
Urban, Theodore—654 E. 28th Street,

Erie, Pa.
Vermeulen, James R.—RD 1, Montgomery, Pa.
Weilacher, LaRue—616 N. Maple Avenue, Ridgway, Pa.
Winger, Robert R.—280 Oak Grove Street, Oil City, Pa.
Yingling, George M.—424 Laura Street, Philipsburg, Pa.

Tentative Opening Dates Set for 1971

Tentative opening dates for 1971 hunting seasons have been established by the Pennsylvania Game Commission.

The archery deer season next year is tentatively scheduled to open on Saturday, September 25.

The tentative opening date for 1971's early small game season is Saturday, October 16, while the general small game season is tentatively scheduled to open next year on Saturday, October 30.

The antlered deer season opening date was previously established by Commission action as the Monday following Thanksgiving, November 29, 1971.

Many sportsmen are compelled to request vacations a year in advance, resulting in numerous requests for tentative opening dates. As a convenience to hunters, the Commission acted earlier on target dates than in the past.

Book Review . . .

To Keep and Bear Arms

The Second Amendment to our Constitution is an anachronism to many of today's writers, but a portion of it forms the perfect title for Bill Davidson's book. Davidson has taken it upon himself to present the other side of the "gun problem"—the side unknown to or ignored by most would-be authorities on the ills of society—those who believe there is a simple solution to the crime problem—just legislate away all guns. "Deliver us," Davidson says, "from privileged leaders of grand aspirations whose studied accents, staged gesticulations, or great wealth do not necessarily make them fit to tell us how to do anything. They succeed only in fostering more crime, losing more lives, and deluding more fools." As this quote suggests, Davidson has no qualms about presenting his own views, but he backs them up with objective material which is a matter of public record even if conveniently forgotten by those who have made a career out of gun hating. Davidson also shows the value of hunting, not only in terms of food or economics but also, more importantly, in how the experience of it has helped our hunter/fighting men stay alive in all our country's wars. He offers two important questions to apply against proposed gun legislation: "Will it work?" and "Will it harm the shooting sports or hamper reasonable self-defense?" He also has suggestions for gun legislation which he feels might be of value. Recommended reading for all gun owners. (*To Keep and Bear Arms*, by Bill R. Davidson, Arlington House, New Rochelle, N. Y., 302 pp., \$5.95.)

COMMONWEALTH OF PENNSYLVANIA
HUNTING LICENSE APPLICATION

(Check Type (s) Desired)		Agent Write in Fees
Resident Senior (17 years and older)	\$5.20 ☐	
Resident Junior (12-16 years of age)	\$3.20 ☐	
Non-Resident	\$25.35 ☐	
Alien Non-Resident	\$25.35 ☐	
Archery	\$2.20 ☐	
Non-Resident 3-Day Reg. Shooting Grounds		
Valid from _____ to _____ only on Reg. Shooting Grd.	\$3.15 ☐	
Resident Disabled War Veteran Claim No.		Free
Resident Serviceman on Leave - Service No.		Free
		Postage
		Total
(Print Plainly)		

NAME _____

(First) (Middle) (Last) (Occupation)

Legal Residence St. or R.F.D. _____

City _____ State _____ County _____

Zip Code _____

AGE _____ COLOR _____ COLOR _____ WEIGHT _____ LBS. _____ HEIGHT _____' _____"

HAIR _____ EYES _____

DATE OF BIRTH _____

(Day) (Month) (Year)

PLACE OF BIRTH _____

(Post Office) (State) (Nation)

NATURALIZATION PAPERS NO. _____ IF NOT NATIVE BORN

I certify that above information is true and that my hunting privileges have not been revoked for this license year. Under 16 years of age (Resident or Non-Resident) have presented Hunter Safety Certificate _____ or prior hunting license _____

(Date of Application)

(Signature of Applicant)

I hereby certify that applicant has properly identified himself/herself and in my opinion is entitled to license (s) listed above.

(License No.)

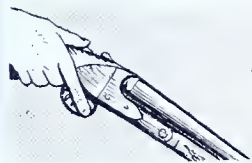
(Archery License No.)

(Signature of Issuing Agent)

AGENTS NOT RESPONSIBLE FOR LICENSES LOST BY MAILING.

REMITTANCE MUST BE BY CERTIFIED CHECK OR MONEY ORDER. (U.S. CURRENCY)

MAIL APPLICATION, AND CORRECT AMOUNT OF FEE (INCLUDE REQUIRED POSTAGE) TO THE DEPARTMENT OF REVENUE, MISCELLANEOUS LICENSE DIVISION, HARRISBURG, PA. 17127, ANY PENNSYLVANIA COUNTY TREASURER, OR APPROVED AGENT. (DO NOT SEND STAMPS) HUNTERS UNDER 16 YEARS OF AGE MUST PRESENT PROOF OF HUNTER SAFETY TRAINING OR PRIOR HUNTING LICENSE. (PREFERABLY A PHOTOSTATIC COPY)



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator

Quick Draw

HANDGUNS are fascinating firearms, popular for target shooting, hunting, plinking and, with a fairly large segment of shooters, for "quick draw." This is the hobby of seeing how fast a handgun can be drawn from its holster. It harks back to the days of our "wild west," the legends of Billy the Kid, Wyatt Earp, Bat Masterson and the like, and was reinforced in recent years by the countless Western programs on television.

We have men today who can perform feats similar to the ones attributed to those old gunmen. Bill Jordan is one of today's experts. As part of his shooting exhibitions, this tall Texan demonstrates his speed by placing a ping-pong ball on the back of his shooting hand and then drawing so fast that the gun clears leather in time for the ping-pong ball to drop into the now-empty holster. And he shows his handgun accuracy by powdering aspirin tablets at 25 feet.

However, not many people can approach Jordan's ability and some of those who try are never going to make it, simply because they shoot themselves during the learning process. Ridiculous? Of course. But it's true. For instance, one western state reported 30 accidents resulting from careless handgun handling while practicing quick draw. Their basic error, of course, was using live ammunition during such practice. The experts don't do this. They use empty guns or primer-propelled wax bullets for practice and they have metal deflector plates on the bottoms of their holsters.



Bill Jordan

They know the possible results of such foolishness as using live ammo—a heavy slug through the leg or foot when a trigger finger flexes or the thumb slips off a single-action's hammer before the gun muzzle clears the holster.

You think it can't happen? You're wrong. Of the 30 revolver hunting accidents in Pennsylvania in 1969 (which was double 1968's total), many were closely related to this procedure, even if "quick draw" was not being practiced. Placing the revolver in or taking it out of the holster accounted for 15 of the 26 self-inflicted accidents.

For example, in explaining how he



1970 is
Wildfire Prevention Year
FIRE PREVENTION IS
YOUR JOB
KEEP PENNSYLVANIA GREEN

shot the big toe of his right foot, one hunter concluded that the gun went off faster than he could draw. A good deduction, to say the least. This is fairly typical of most of the accident reports on Pennsylvania's handgun victims. Other common ones include "Pistol went off when hammer caught in holster." . . . "Was removing revolver from holster when it discharged." . . . "Was replacing revolver in holster when it accidentally discharged." . . . "Drew revolver and dropped it and it went off."

These explanations aren't completely accurate, of course. Guns in good mechanical condition, as most are, don't go off "accidentally." Somebody always pulls the trigger, or at least some outside force acts upon it—as in the case of a dropped gun. What this all boils down to is that accidents are caused by people, and proper training and good gun handling habits can eliminate most accidents.

Handguns, because of their physical design, offer more of a danger problem in one respect than shotguns or rifles. Their short length makes it easy

to point one at yourself. It is not a rarity, on a firing line, to see an inexperienced shooter raise his revolver with the muzzle pointed directly at his own head. Or, because the handgun's size makes it easy to swing, at another person. Such actions cannot be permitted. Proper training and the good habits this creates eliminate such problems.

Such thoughtless actions don't occur only on the range. In fact, there are comparatively few there, probably because so many experienced shooters are on hand to give immediate instructions to the careless. More often, the problems arise in the field.

Raccoon hunters very often carry a revolver to dispatch a treed animal rather than shake him down full of fight for the dogs. Having been involved in a number of coon hunts, I've seen some encounters that were a screaming, kicking, squalling, hollering mass of dust, leaves and fur—a total state of confusion. In most cases, a full grown raccoon can make an even fight with two men, a boy and a pair of dogs, and many times come out the winner.

Accidents Verify Excitement

Our hunting accidents verify this excitement, and one hunter can attest that adding a revolver only adds danger to the confusion. He stated, "I was hunting coon, and the dog caught one in a cornfield and was fighting with it. As I ran up to shoot the coon, the dog let go of it and the coon made a dive for me. I kicked it back with my left foot, and shot at the same time, not realizing my foot would be in the way. Hit both."

Although the handgun is not widely used for hunting, the increased number of handgun hunting accidents may merit special attention in hunter safety courses. Quick draw is not essential to hunting with the handgun. As one old-timer put it, "Hurry iss for nossing, which iss the mark of a weak mind, quick iss the hart way." A little "Dutch," maybe, but true.

Camp Cooking Hardware

By Les Rountree

I'M NOT TOO surprised that reader mail addressed to this column indicates campers are very interested in cooking and cooking equipment. Some people spend as much as one-third of their time preparing, eating and cleaning up after meals. They are the camp cooking gourmets. But I'll bet that all campers combined spend at least one-fourth of their total camping time in the cooking department. I've got a couple of cooking columns in the mill right now, but this month I'd like to talk about the hardware that makes outdoor cooking the pleasant task it should be. If your camping trips occur rather infrequently, it is possible to do a passable job with items swiped from the kitchen and pressed into temporary service. If you're a serious or semi-serious camper you should have a special group of pots, pans, dishes and other accoutrements in the permanent camping duffle.

If you own a pickup camper, camping trailer or other one-unit camping rig, you should keep it completely equipped at all times. It saves loading and unloading which, of course, adds more time to the trip. What should the ready-to-go camper unit contain?

If the stove is not a built-in model you'll need a cooking instrument of some kind. Practically all of the unleaded gas stoves are acceptable these days. They follow the same basic design and are satisfactory for most families. If you're doing something more than one-dish meals you'll have to do some juggling with the two-burner job. For example, if you're frying fish, perking coffee and trying to boil potatoes at the same time, some fast switching will be necessary. One solution, if practical at your particular



IT'S POSSIBLE TO scrounge camping silverware from kitchen discards, but so many stainless steel sets are available at reasonable price that it's simpler to use such a kit.

location, is to do the fish over an open fire and keep the burners for the items that don't need such careful watching. Since air temperature and wind vary considerably from day to day, it's impossible to calculate exact cooking time outdoors. Frying, especially, must be played by ear.

While a little less convenient to carry, the three burner stoves are very practical and their cost is only slightly more than that of the two-burner model. Coffee and the main dish can be cooking while the third burner is heating dish water. Two- and three-burner LP stoves are also available from the better known suppliers. They do a slightly more uniform cooking job than the gas numbers. They are a bit more expensive to operate, but not



A TWO-BURNER CAMP stove and steel frying pans will serve, if they're what you have, but a three-burner stove and cast-iron pans are better.

much. They are cleaner to handle since the fuel is in disposable cylinders and burns with less solid particles floating around. I use both and like them. It's strictly a flip of the coin decision.

The first item you should consider in the pot and pan department is, naturally, a large cast-iron skillet. In fact, all campers should have two of these. One should be fairly large, a 14-incher, say, with high sides, and the other a small one, an eight- or 10-incher, for frying small quantities of eggs, bacon or potatoes. The newer teflon coated skillets are fine at cleanup time (and they do heat up rapidly) but nothing holds heat like a cast-iron pan. There are hundreds of one-dish meals that can be prepared and served in a cast-iron skillet. Admitted, they are not the easiest thing to pack or carry for a walking trip, but where the camping unit is a mechanized one, the heavy skillet is a must.

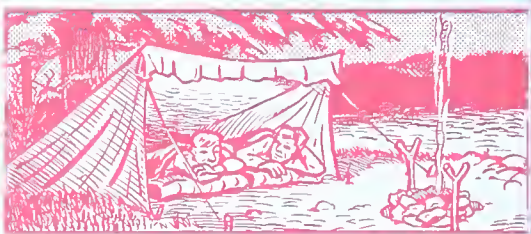
Next the camper should have a fairly large, deep pot for boiling water and making stews, soups and spaghetti sauce. A steel, aluminum, or teflon-lined model is fine here. Anything that holds four quarts or more is what

is needed and I suppose in this category I would lean toward the teflon. Sticky stuff washes off this material with ease and if you don't use a scouring pad on it, it will last forever . . . or almost. With any teflon-coated utensil remember to always use a rubber or soft plastic scraper at cleanup time.

The other two basic pots should be of one- and two-quart size. These are for vegetables and boiling potatoes. If storage space is critical buy pots and pans with a bucket type handle. I have some of these but much prefer the right-angle handle for cooking comfort. The pail handle is always hot and unless you remember to pick up a hot pad before you lift the lid, you'll have burnt fingers every day. The bucket handle does offer a safety advantage if small children are along. A protruding handle is an invitation to a hot shower bath that could be disastrous.

Buy lids for all cooking utensils. Everything cooks faster with a lid on. A lid also keeps more of the bugs out, just in case you don't happen to enjoy a little extra protein in the stew. In a pinch aluminum foil can be used to fashion a lid.

Another handy gadget in the pot department is a little single egg poacher. These things have been around a long time, but I'm surprised so few people use them, even at home. They are nothing more than a tiny pan that holds about a half pint of water with an inner concave holder that poaches one egg perfectly. It also has a lid. Works like this: Bring the water in the pan to a boil. Put a dime-size spot of butter or margarine in the egg holder, an egg, put on the lid and wait four minutes. Out comes one beauti-





LINED PLASTIC CUPS, as shown in this cutaway, keep hot drinks hot, cold ones cold, don't burn lips and are practically indestructible.



SMALL EGG POACHER will do for one or two campers, but for a family with several children, a three-egg unit speeds up breakfast.

fully done egg. No extra fussing and practically nothing to clean up. I used one of these things for a dozen years or more, even when preparing eggs for a lot of people, and then I discovered that three-egg poachers were available. The single egg job is made of tin and is light enough to be included in any backpacker's kit as well.

If you like to cook spaghetti when camping (and I do) you might consider taking a colander along. A colander is one of those upside down cones that has all the holes in it. It is the perfect instrument for draining water off spaghetti. A colander sure does beat the old-fashioned way of trying to juggle a hot lid while pouring water onto the ground or camper sink. After you've scalded your hand a number of times or, worse yet, dumped the spaghetti on the ground, you can appreciate its function.

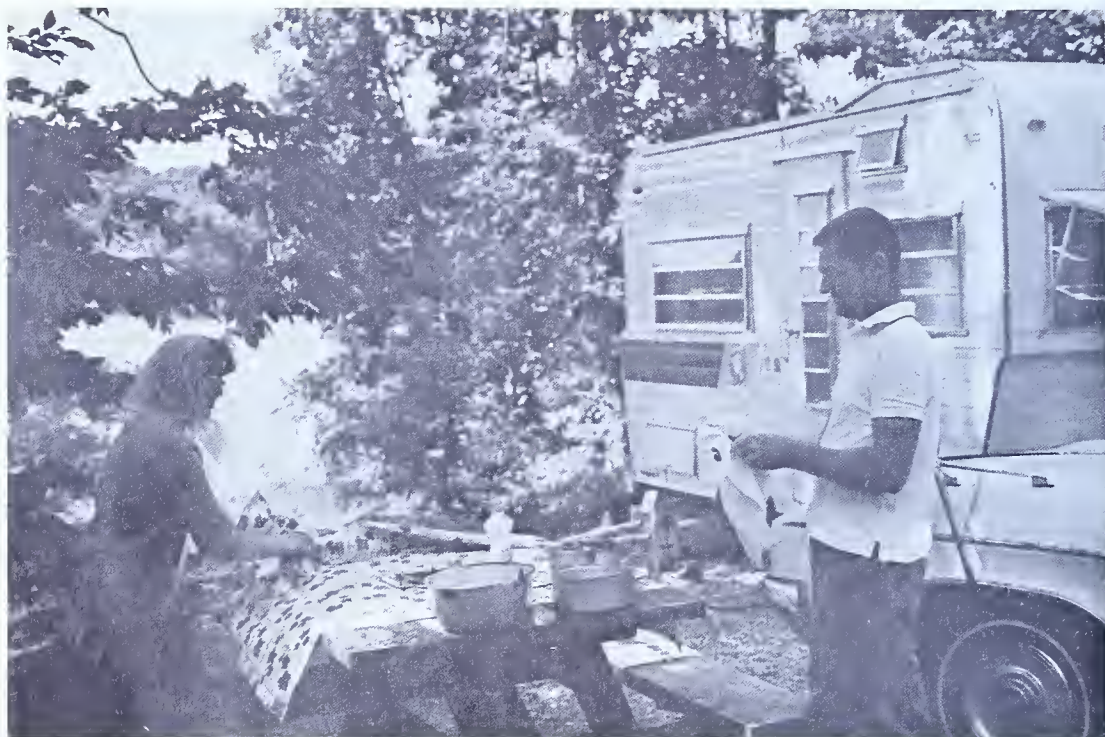
Silverware for camping trips is another item that is usually made up of kitchen discards. Nothing wrong with this, but good serviceable stainless steel kits are so inexpensive these days that there's really no excuse for not having a special set just for camping. It's hard to improve on the design of the spoon or fork but make sure that your camping table knives have ser-

rated edges. In a pinch, one can be used for slicing tomatoes or other cooking chores, but where this edge really shines is cutting up a steak or pork chop at the table. Nothing makes eating a steak more of a chore than the lack of a good knife to operate with. The master of camp usually solves this dilemma by carving with his personal pocketknife. This is unfair unless everyone else at the table has his own pocketknife.

Wooden Spoons

Ordinary soup spoons will serve as stirring spoons, but I stoutly declare that any true camper will have at least one wooden spoon. In fact, if you housewives don't have two or three wooden spoons or ladles at home you should be ashamed of yourselves. The advantages are many. They don't get hot. (Ever try to pick up a metal spoon that's been in the stew for 15 minutes?) They don't rust and they never mark up a teflon-coated pan. Cooks for centuries have maintained that food prepared and stirred with a wooden spoon tastes better. I'm not sure just why, but I think they're right.

You'll also need a spatula for turning eggs, bacon and other things that need turning. Practically everyone uses



NO MATTER WHAT KIND OF SILVERWARE or cooking utensils are used, the time always comes—at least three times daily—when you have to wash 'em!

a large cooking fork for some purpose or other but I'm rapidly growing accustomed to using a pair of tongs, the short-handled variety, for most meat turning chores. This is especially true when steaks are being broiled. A good steak, or any meat for that matter, will taste better in camp or at the backyard barbecue grill if you don't impale it every time you turn it. Poking with a fork lets the juices run out and make the fire flare up, which in turn makes the steak cook faster than it should. Overcooking and lack of juice make steak taste like an old tennis shoe. Tongs are also great for turning bacon or hamburgers or retrieving something from a hot fire. Sooner or later every camper drops something in the fire.

For leftovers of all kinds and for carrying certain foods with you at all times nothing beats the sure sealing plastic containers pioneered by Tupperware. The lids really do seal tightly and no matter what position the containers wind up in they won't leak. I

usually carry my butter, flour and sugar in one of these, since the original store package won't usually hang together during a one-week trip. This is even more true after a rain. Speaking of dampness, the plastic cans and boxes (you can buy practically any shape and size you want) are just the ticket for packing cereal, crackers, bread and other such items that will be affected by moisture. Nothing is more dismal on a rainy day in camp than soggy crackers or cornflakes.

Unless you want to be fancy or your camping trips mean living in a deluxe travel trailer, you don't really need any serving dishes. Serve food right out of the pan, it tastes better that way. The only exception is fried fish. They should always be drained on several layers of paper towels to get rid of the extra grease. Paper plates are okay since some really good ones are available today. The economy jobs that are about as thick as toilet paper are next to worthless. It takes four or five of them stacked together

to prevent mashed potatoes from soaking through. Some of the plastic coated ones are fine and even a steak can be cut on them. Tin plates are passe unless you're in a really backwoods situation. If you absolutely cannot stand paper plates (and for some dishes I can't), the hard plastic dishware that comes under a variety of brand names is the answer. Most of this material is nearly unbreakable and will last a lifetime—or at least until you get tired of the color. Food stays quite warm on them for a long time if you remember to heat the plates before serving. (The easy way to do this is to immerse the plates in very hot water for a minute and let them evaporate dry.)

For drinking vessels the new lined plastic cups are excellent. They keep hot drinks hot and cold drinks cold. For emergency use paper cups are fine for breakfast juices or a drink of water. Try to get along with as few *dispos-*

able containers as you possibly can. And this brings me to a good way to wind this month's episode to a close, I believe.

A lot of us, including me, have fallen into the habit of buying soft drinks and some not-so-soft drinks in throwaway cans and bottles. I know it's a lot of bother, but why not try to get returnable bottles? Bring them home and turn them in for a refund or as part payment on the next supply. The trash barrels at campgrounds would need less emptying. Collectively, we campers could decrease the country's trash problem by several million tons each year. The people who put things to drink in cans and throwaway bottles tell me that public demand is just not strong enough to convince them they should make more of their products available in returnable bottles. Let's see if we can make them eat those words.

Days of Yore



NOVEMBER 1, 1917, WAS A GOOD DAY for rabbit hunting, at least in Franklin County, as this almost-53-year-old photo proves. Successful hunters were Mame Strine, Clyde Strine, Frank McKee and Margaret McKee. Photo from John Plowman, Jr.

Archery for Everyone

By Keith C. Schuyler

Photos From the Author



IT IS NO accident that the name Forksville is as common in Pennsylvania bow hunting circles as some of the better brand names of bows. The Bowhunters' Festival held at the fairground in this little village each September is by far the most popular participating event in archery.

The key word here is *participating*.

In fact, although archery has limited appeal as a spectator sport, the Forksville Festival probably draws more participants than any other sporting event held in the United

States. There may be exceptions wherein bowlers might equal or surpass the number of participants when a national tournament is being held. But there are no tournaments of note at Forksville. Those who attend the Festival are primarily there to shoot for a good time.

In recent years, participation in the Festival has averaged in excess of 2000. In addition, there are well over 1000 spectators during the two and a half days of the Festival.

Officially, the Festival begins at noon on Friday and ends at 4 p.m. on Sunday. Because of distances to be traveled and work schedules, things generally don't get into high gear until late Friday afternoon, and activity starts to taper off about the middle of Sunday afternoon.

Although there are some informal contests, and there are cash prizes to clubs, these events are held more as crowd pleasers than to establish any records for shooting skill. But they, in themselves, provide a clue to the popularity of the Festival.

Informality of the activity undoubtedly gives the Festival its greatest charm. People wander back and forth in all directions at once throughout the three days. Each has a specific goal in mind, but there is no one to tell him or her what to do. Except when the shooting attractions are closed down for some special event or demonstration, the fairground runs full blast from early morning well into the night. Even after the animated targets have been stilled simply because the volunteer help can't keep going without some rest, shooters will be seen on the line releasing arrows under the lights well toward midnight.



AT THE BOWHUNTERS' FESTIVAL, special provision is made for the youngsters who prefer to shoot together.

The fairground is jammed, but special police and volunteers help keep things moving and there are very few tie-ups. This is particularly remarkable in view of the fact that some 300 archers take off for the boar hunt on Saturday and Sunday, and many of their vehicles must be moved from the fairgrounds for the purpose.

Each year sees more and more camping units of one type or another which are strung along Route 87 at every available space. In addition, some 70 units can be accommodated at World's End State Park a short distance away, and Higley Park, one mile north of Forksville on Route 154, can accommodate about 375 camping units. Other campgrounds are being established in the area, for Forksville sits at the junction of Big and Little Loyalsock Creeks in the heart of Pennsylvania's Endless Mountains, where it wallows in some of the state's top scenery.

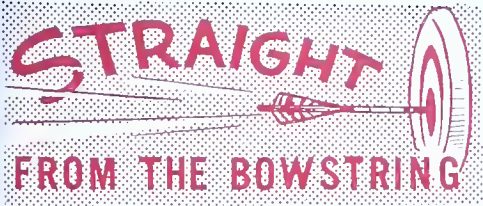
There is no question that certain inconveniences must be suffered by those attending the Festival. Nevertheless, attendance continues high and few frowns are seen throughout the period. Forksville itself is but a tiny village, and the mountains come so close together that there simply is no room to expand the present facilities.

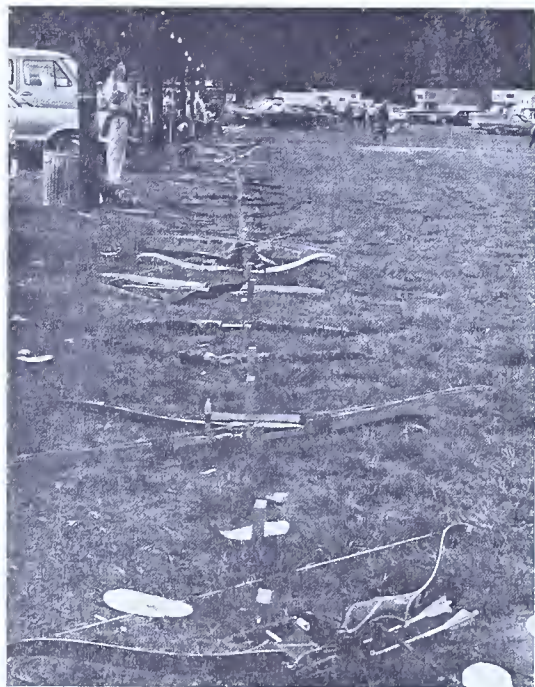
In general, this is what the Forksville Bowhunters' Festival is all about. But it is still the individual activity which brings bow hunters from across Pennsylvania and nearby states to enjoy the participation and the spectacle that the Festival presents. It would not be necessary to advertise at all, for those who keep going back every year provide sufficient numbers to keep the event in business. Nevertheless, it is still wise to make advance reservations to be sure of either camping space or overnight accommodations within a reasonable distance.

What brings people back?

Plenty. This annual event has proven through its 12 years in existence that to bring archers out you must provide fun for them. The multi-featured program at Forksville does just that.

In what follows, we will take a look at some of the individual activities. From them, any club can get a clue





THE VARIETY OF BOWS shown here, many of them camouflaged, gives a clue to the preseason practice being obtained at Forksville.

as to what it takes to bring the average archer into organized activity. Take note that the only bullseye targets used during the Festival are a few set up for shooting demonstrations by the experts and for the team shoots. Any one of the following activities would guarantee more participation by members of any club, attract new members, or be the basis of forming a local organization.

For example, take the first organized activity which occurs on Friday night—a raccoon hunt. Only a person who has gone out at night with a few good dogs to rout out some shooting up the beam of a flashlight can appreciate the excitement that goes with this one. At the Festival, a contest based on the number of raccoons brought in brings out some of the best coon dog men in the state. Scattering in all directions, in groups of five hunters to be within the Game Law requirement, these packs of men and dogs have individual experiences that provide stories in themselves.

Just standing in a patch of woodland or along a hedgerow waiting for the dogs to tree a coon is worth the price of admission. The normally quiet mountains echo the shouts of dogs that enjoy the sport as much as their masters. And when a raccoon is finally treed, the activity which follows is a fair example of pandemonium. While hound dogs try to climb the trees, lights are thrown on the raccoon and hopeful archers attempt to bring it down for a score. Trying to find one's way back to the Festival from one of these midnight forays presents its own problem. Some groups go as far as 40 miles away to favorite spots where chances are best to build up a score. All hunters must be in with their bags of raccoons by two o'clock to have them counted in the contest.

This event is featured both Friday and Saturday nights. Aside from the regular registration fee, the only other requirement for participation is a current hunting license. Those who don't care for night hunting, or already have sore fingers from shooting, are treated to outdoor films in the new show building built with profits from previous festivals.

Wild Boar Hunt

On Saturday morning, the first wild boar hunt usually starts at nine o'clock. About eight or 10 feral pigs from the Georgia swamps are turned loose in a predetermined area. Upwards of 300 bow hunters will be lined up to take their chances against heavy human odds and the sharp instincts of the Southland porkers. Each of the pigs is previously checked for hog cholera, since it is likely that at least a few of them will escape the hunters. Most of these are easily picked up during the regular gun hunting seasons, but they sometimes travel amazing distances from the release area before being bagged.

The second hunt on Sunday usually brings out even more participants. Over the years, such prizes as chipmunks and rattlesnakes have gained

the attention of those archers who fail to get a glimpse of a wild boar. Return of successful hunters is always a big event, loudly announced so that photographers and spectators can view the trophy. One of these feral pigs represents a considerable bonus to the lucky hunter, since its meat is much more like wild game than domestic swine. These hogs literally run wild in the Georgia swamps, and they build good red meat in place of the fat commonly found on domestic species.

Raccoons and feral pigs provide the only intended live targets during the Festival. However, both animated and still targets in three-dimensions, with natural coloration, provide an excellent substitute for those who do not care to go hunting.

Most famous of these, of course, is the running deer target. Although there are about 50 shooting stakes, during much of the period archers must stand in line for a try at the life-sized deer which rides the track back and forth twice for four volleys of arrows. Constructed of burlap and styrofoam, this animal is so designed that even a near miss will cause the

arrow to stick into the target. Since the Festival precedes the deer hunting season by only a matter of days, the running deer provides excellent practice for those who plan to go big game hunting. One of the end results of this shooting is to prove to bow hunters that they should confine their shots to deer at much closer ranges than the 45 yards in this setup. Nevertheless, with a bit of practice the better archers will place several of their arrows in the deer on the double run between arrow recovery periods.

Another practical feature is the series of three field courses at which the targets are all three-dimensional. They vary from deer to bear to raccoons and other assorted small game species. There is constantly a long line of archers waiting for a turn at these targets, despite heavy arrow breakage and the frustration of difficult shots. One of the nation's top shooters, whose name we will mercifully omit, bent and broke so many of his aluminum arrows on a field course that he had to borrow some for a demonstration shoot later in the day.

For those who don't wish to test

ARCHERS TAKE TIME OUT FROM THEIR shooting to listen as traveling musicians offer country music.





AND THEN THERE'S FOOD! Bud Herr, one of many volunteer workers, prepares for the assault of famished bowmen on barbecued chicken.

their strength on the rigors of the field courses, there is a variety of stationary and moving targets which take up the slack.

Although just pounding away at a stationary deer would not seem to excite much interest, there is waiting room only at a long line of shooting stakes throughout much of the Festival. Both small and large game species are provided in one shooting area with a diagonal shooting line so that various distances can be tried. A similar setup is provided for the youngsters at much closer shooting distances.

Among the animated targets, the most popular is an arrangement much like that of the running deer except small game targets are utilized at closer distances. There is also a pinwheel of balloons, always a popular target. These are constantly moving. Three-dimensional ducks on an extension of wire keep circling to test the ability of hopefuls in hitting flying targets.

From one end of the fairground to the other, various shooting challenges guarantee against monotony while providing practical practice for the hunting season. For the most part there is absolutely no formality although each target area is carefully supervised. An attendant with a whistle signals the beginning and the end of shooting, and simple safety regulations are strictly enforced. Any and all of these attractions are available to the individuals who sign up for a participating ticket.

Semiformal Contests

In addition, there are several semiformal contests. There is a team contest at the running deer target, with prizes given to the club coming up with the best score. There are also cash prizes awarded to the three clubs having the highest number of registrations. A Queen Contest is the highlight of the event, with \$25 going to the club sponsoring the queen chosen to preside over the Festival. Audrey Stauffer is current queen.

Homer "Dutch" Wambold, bow hunting writer, sponsors a cold turkey shoot in which each archer gets a single try at the vital spot on a three-dimensional deer target in a series of eliminations. Lawrence Hartman of Bloomsburg has two legs on the large trophy provided and will take it home with him at this year's Festival if he comes up a winner. Each year the Festival Committee sponsors the appearance of one of the top champions in archery. At last year's event, Hardy Ward, Texas world target champion, Dorothy Lidstone, Canadian ladies' champion, and Ray Rogers, current National Archery Association target champ, were on tap for shooting demonstrations.

To complete the festival atmosphere, there are musical groups, exhibitions, sales booths of archery equipment, an exhibit by the Pennsylvania Game Commission and an odd assortment of other shooting attractions from year to year.

And, there is the food! There has never been any gouging on prices at the Festival and there is plenty of food. Highlight of the gustatory department is the chicken dinner with all the trimmings served on the fair-ground each of the two full days. In addition, various churches in the area provide special dinners. Aside from the archery oriented business, there is absolutely no hawking of unrelated junk such as is found at the usual fair.

Although one must attend the Festival to appreciate this necessarily cursory examination, there are clues all over the place as to how interest can be engendered among those who take the casual approach to archery. This is listed as a Bowhunters' Festival by the Sull-Bow Buck and Sullivan Chamber of Commerce, but it is obvious that many others who simply enjoy shooting the bow are present. Such an event would be impossible on a profitable basis without the thousands of hours of volunteer help. Those attending cheerfully pay their registration fee in the knowledge that any profit goes to further improvements at the Festival, the Boy Scouts and the Girl Scouts.

One of the few clubs to snap up

some of the ideas of the Festival has been the Frontier Archery Club at Pottstown, where the 3-D shoots each year keep the club solvent. And, there are rumors of a similar bow hunters' event being planned for the Lawrenceville area. But it is sad that so few clubs have attempted the type of facility which has proven so popular at Forksville.

This month the Forksville Bowhunters' Festival will prove for the thirteenth time that archery is for everybody—if they are given a proper opportunity.

Last year's general chairman was James B. Schock, Jr., of Dushore. Reservations can be arranged for by contacting Mrs. Gerald Taylor, Dushore, or direct reservations can be made by writing or calling one of the following.

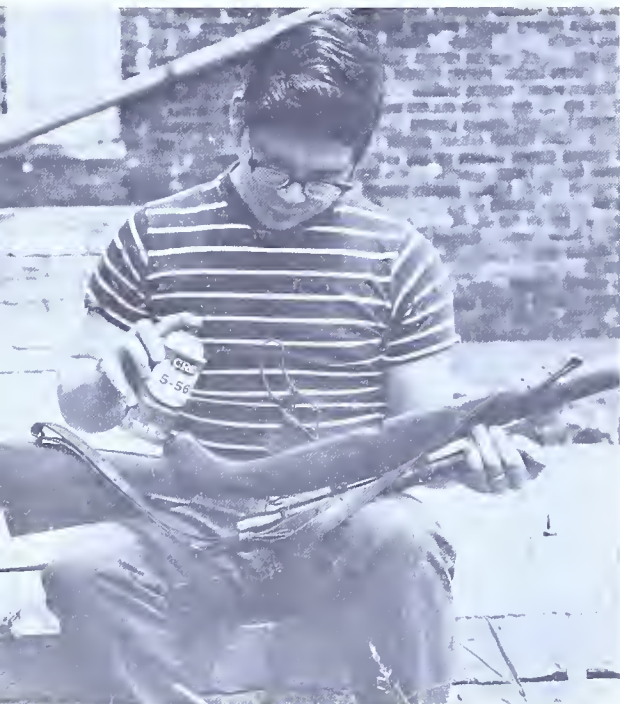
For tent, trailer or cabin space: World's End State Park, c/o Clair McCarty; camping accommodations at Higley Park, Don and Evelyn Higley, RD 2; trailer, tent or cabin space in Forksville, John Blest. Some private homes accommodate archers during the long weekend. All addresses are Forksville, Pa. 18616.

This year's Festival will be held September 18, 19 and 20.

Book Review . . .

Home Guide to Trees, Shrubs and Wild Flowers

Few outdoors people know as much about the common plant life they encounter as they would like. Most of us, perhaps, can recognize a certain tree as an oak—but is it a white, black, scarlet, red or post oak? Or can you look at a leaf and tell whether it's a rock elm or hackberry? This book has the answers to countless questions of this type. Intended primarily for the novice, the material is taken or adapted from three earlier books by the same author—*The Book of Trees*, *Recognizing Native Shrubs* and *Recognizing Flowering Wild Plants*. The format is simple. After an introduction which explains basic terminology, different divisions of the book cover the trees, shrubs, woody vines and wild flowers of eastern North America, except the extreme Southcast. There is a concise written description of each, plus excellent line drawings of leaves, buds and stems. Arrangement is by habitat, flowering season, etc., rather than the botanist's family, genus and species. A very useful and usable book. (*Home Guide to Trees, Shrubs and Wild Flowers*, by William Carey Grimm, Stackpole Books, Cameron and Kelker Streets, Harrisburg, Pa. 17105, 1970. 320 pp., \$9.95.)



ED FRENCH SPRAYS light coat of rust inhibitor on mechanism of his Model 88 Winchester 308. Rust is one of the major gun problems.

THE HUNTER finished his cup of coffee, glanced at the clock and tiptoed from the kitchen. Reaching his garage, he donned heavy hunting clothes, checked his license and shells and grabbed his freshly cleaned rifle. He admired the rifle for a few seconds, noting that his young son had taken quite a lot of time to clean and oil it. He reminded himself that he was very neglectful about keeping the rifle clean. In fact, he remembered telling his son to scrape off the rust and slap the oil to it. The rifle wasn't worth too much but it would shoot with the best of them, and the hunter did feel a little ashamed for not touching it from one season to the next.

Right at the moment, he had more important things to think about. Anyway, he had nothing to worry about, the rifle wouldn't let him down—it was so well oiled the oil was actually dripping out around the trigger guard. His son evidently had taken his advice literally.

Once Over Lightly

By Don Lewis

Photos by Helen Lewis

A half-hour later, the hunter rested the rifle over a large stump and watched a deer crossing below. He knew there were deer in here, and he felt sure that it wouldn't be too long before a doe came through. He was right about that. The chill of the frosty morning had hardly penetrated his thick jacket, when a nice fat doe appeared. As far as the hunter was concerned, this was just like licking icing from a cake. He froze the scope on the chest of the doe and squeezed the trigger. When the rifle didn't fire, he eased his thumb against the safety and pushed hard. To his amazement, he found that the safety had already been pushed. Thinking he had failed to put a round in the chamber, he began to lift the bolt handle, keeping a sharp eye on the doe. He soon discovered that a live round was in the chamber but that something was radically wrong with his rifle; it was stiff and almost impossible to operate. He made a futile attempt to work a fresh round into the chamber, but his efforts were to no avail. While the big doe walked away, the hunter stood with a well oiled rifle that just wouldn't fire.

Back in those days, I was doing a fair amount of gun work which included disassembling and cleaning all types of firearms. I was no stranger to the well oiled gun, and this man's rifle was not the first I had seen that was a victim of the oil can. The fellow admitted he had no idea too much oil

could cause such a problem. The young son, thinking he was doing his father a real favor, had actually poured oil into the action of the rifle. On the other hand, the father confessed he had been happy to see the excessive amount of oil. Naturally, both were wrong. Too much oil is far worse than too little. The generous amount of oil used in this case contributed directly to the loss of a deer and nobody can consider that a favor.

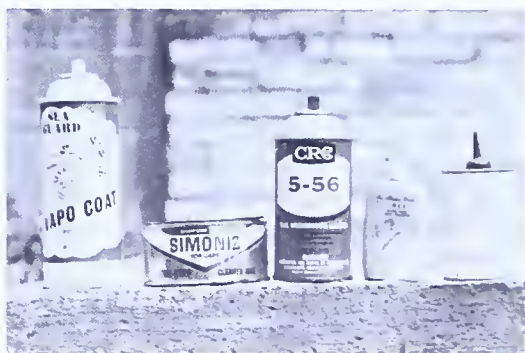
The first thing that should be learned about cleaning your hunting guns is when to clean them. If your community is the same as mine, the custom is to get out all the hunting guns prior to opening day and saturate them in grease and oil. I've never been quite able to figure out the reasoning behind this, but it happens in my area every season. Even the people who don't hunt ask the standard "have you got your guns oiled?" question. Almost as faithful as the salmon run the mighty rivers in the Northwest and the swallows fly back to Capistrano, the Pennsylvania hunter gets out his hunting guns for the fall time ritual of inundating them in oil.

Love and Affection?

With all the love and affection that generates this act of kindness, this is the worst thing you can do to your favorite shotgun or rifle. Notice that I have been implying the *excessive* use of grease and oils. I haven't frowned on a little fall cleanup of ol' Betsy, but I do want to make it abundantly clear you should hold the line with just a mere touch-up prior to the hunting season. Perhaps I should explain why.

Oil in a firearm does not have the same purpose as oil in the family lawn mower or the car's transmission. In engines and gear boxes, oil serves several purposes. First, it acts as a cushion, keeping the gear teeth from actually touching, and it reduces the friction that comes from high speed. Gears and bearings running in oil are kept cool and do not gall. However,

there are no parts in the hunting firearm that require a cushion of oil or a bath of oil to reduce heat. The main purpose of oil in a firearm is to prevent rust and corrosion. Enough oil to accomplish this will also be sufficient to keep the firearm working smoothly. The surprising part is that one or two drops of thin gun oil can be spread



HERE ARE A FEW OF the light oils, sprays and preservatives that Lewis uses to keep his guns in good condition and top working order.

out over an entire rifle or shotgun. I once made the statement in an article that was published in Michigan that a dollar's worth of gun oil would *properly* oil every shotgun in the state of Michigan. Of course, I was only trying to make a point, but even as ridiculous as the statement might sound, it does come pretty close being a fact. I don't want to get involved in any arguments about how much a dollar's worth of gun oil is, but the fact remains that too many gun owners over oil.

If you think I might be exaggerating that last statement, allow me to recall several incidents from my gun cleaning days. I washed out one gun that had been swabbed with gun oil and heavy gear box grease. With just a screwdriver, I removed a full tablespoon of thick, sticky grease. How much more I washed and blew out with compressed air is unknown. But the one that sticks in my mind the clearest was a lever action rifle that had been packed with a grease gun. The owner simply tried to lubricate the rifle for life. This might be okay

with wheel bearings but it just won't work in a rifle.

These incidents are exceptions and are not meant to insinuate that every hunter would be guilty in making these mistakes. But it's no exaggeration to say that the average hunting firearm is carrying far too much grease and oil.

Since the hunting seasons are just around the corner, allow me to offer a few suggestions in regards to getting your hunting equipment in shape. Instead of getting out the squirt oil can and dousing the innards of the shotgun or rifle with two or three large squirts of oil, simply wipe off the outside of the gun with an oily cloth. Disassemble the gun down as far as you know how and wipe the inside as best you can. I have suggested several times to use an old shaving brush. I've found that a few drops of oil on a brush will last for weeks. All the while you are brushing the dust and dirt out of the action, you will also be coating the parts with a very thin coat of oil. I agree that this doesn't seem to be the usual way to get a firearm

WHENEVER POSSIBLE, rifle bore should be cleaned from the chamber end, not the muzzle. This keeps the rod from wearing rifling lands at muzzle and adversely affecting accuracy.



clean, but for the time being, it will suffice. There will be plenty of oil on all the parts to hold down the rust and keep the working parts free. Keep in mind that this preseason cleaning is only for a period of several months. During the hunting seasons, the hunting gun should be almost dry, so far as oil goes. This will prevent any problems of gumming or coagulating. The man in the first part of this article was simply a victim of excessive oil thickening around his firing pin spring, prohibiting it from working. In his case, no oil at all would have been to his advantage.

Oil and Wood

I've explained in other articles about how oil reacts on wood. I've heard many times about oil rot. This is especially true with old double barrels. The inletting on many of these fine old doubles was very precise and delicate. In some cases, the stock is inletted in such a manner that the tang of the shotgun slides into the middle of the stock. Two very thin portions of wood fit against the sides of the shotgun action. The "oil rot" statement is wrong in implying that oil rots wood. It does nothing more than soften the wood over a period of time. Excessive oil soaks into the wood and prevents the wood screws from having any gripping surface, and on these delicate inletted doubles, it will cause the thin wood sides to break. I've seen a number of stocks on fine old doubles that were ruined due to oil. The best treatment that can be given the average stock is a good coating of car Simoniz. I use it inside and out on most of my firearms. I've found that it seals the pores against moisture and puts a hard, long lasting coating on the outside that enhances the appearance. This is usually the first thing I do with a new stock.

There seems to be a controversy about storing rifles and shotguns. I know that many guns are oiled and stored in all types of soft, felt-lined cases. I'm afraid to do this. I would



GOBS OF GREASE packed into this Browning autoloader are typical of the way that many hunters treat their guns. The intent is good, the result bad.

much rather that my guns be exposed to the air and out where I can keep an eye on them. I've had several close calls with guns that were zipped tight into wool or soft lined cases. It's a real shocker to unzip a case and find the gun covered with rust. One incident I know about required actually tearing the shotgun from a wool type lined case. The lining had imbedded in the rust on the shotgun. It required a new bluing job.

A Constant Menace

I think it can be pretty generally stated that rust is a constant menace, regardless how much care is given. I often notice particles of rust on guns that I had cleaned a week or two before. Sometimes this rust forms on top of the bluing and will rub off with an oily cloth. If it's through the bluing, the simplest thing that can be done is to remove it, clean the little spot with fine steel wool, and touch it with cold bluing. This takes time and caution should be used. Usually, the spot is so small that the cold blue will do a good job, and it takes a sharp eye to spot it. This is why I like to keep my guns out in the open or in a gun cabinet where there is little chance for them to get covered with rust before I know about it. I don't worry about dust covering them or getting into the working parts. It only takes a few seconds to wipe them off, but if the old

menace of rust really gets to a fine rifle or shotgun, the owner is in trouble.

I suppose I've been asked a hundred times how often a gun should be cleaned and when. I could evade the question by saying that it's a matter of personal opinion, but I do have some definite ideas about gun care. Tearing down a large number of all types of firearms and seeing how neglect or even "over-care" can damage a gun put some specific ideas in my head. I can't say that a gun should be cleaned every so many days or months. Also, it really makes little difference how much the gun is used as to whether it should be cleaned once a week or once a year. Again I say that rust and corrosion are the real demons. They attack metal regardless of where it is. Moisture seeps into the tightest places, and the formation of rust begins. Since I have no idea how much moisture is in your house or gun cabinet, I can't designate definite times when guns should be cleaned. All I can say is keep an eye on your guns in the spring and fall, for these seem to be the times when my guns need attention.

The outside naturally demands the most attention, but a yearly takedown of all guns to inspect the inside parts

GUN WOOD ALSO NEEDS protection, and Lewis has found that Simoniz, applied several times a year, does an excellent job.



is necessary. As I stated earlier, a quick brush down will be sufficient unless real danger signs are noticed. As far as a major cleaning goes, this should be left to a gunsmith who will disassemble the gun completely and wash, dry and lubricate all parts. A major cleaning is not just a 15-minute job. I usually disassembled the gun completely, soaked the metal parts in a special solution for several days and then dried the parts with compressed air at a high pressure. After drying them, I would dip the parts in a thin oil and allow them to drip for several hours before blowing off most of the oil with a compressed air at a low pressure. This assured me that all parts had been oiled properly, and I never assembled a rifle or shotgun that had excess oil on the parts.

The inside of a barrel should receive a good scrubbing from time to time. Use plenty of hot soapy water and scrub the barrel vigorously. If using a brass brush, be certain that it will go through the bore without any trouble. After the scrubbing with the hot soapy water, follow by rinsing the

barrel thoroughly with very hot clear water. Dry the barrel with a good supply of patches. The heat from the hot clear water will actually dry any remaining moisture in the barrel. Then oil lightly.

A good method to follow when cleaning a rifle barrel is to just run a patch once one way. Never pull the first couple of dirty patches back through the bore. This removes entirely the residue and copper particles and doesn't give them a chance to cut or scratch the smoothness of the bore. After all the washing and drying has been completed, run an oily patch or two through the bore and the bore is protected just as much as if it were full of oil.

The best advice I can give is to not neglect any firearm. Five minutes a month will keep any rifle or shotgun in perfect condition. Don't go overboard with the oil can and keep grease out completely. Take it from a fellow who has seen some unbelievable sights. When it comes time to clean your favorite shooting piece, go once over lightly, please.

Looking Backward . . .

"July 14.—Reached Clearfield creek, where the buffaloes formerly cleared large tracts of undergrowth, so as to give them the appearance of cleared fields; hence the Indians called the creek Clearfield. Here at night and next morning, to the great joy of the hungry, nine deer were shot. Whoever shoots a deer, has for his private portion, the skins and inwards, the meat he must bring into camp for distribution. It proved advantageous for us not to keep so closely together, as we had at first designed, for if the number in camp is large, one or two deer when cut up, afforded but a scanty morsel to each individual. So it happened that scarce a day passed, without there being a distribution of venison in the advance, the centre, and the rear camp. (On the route there were one hundred and fifty deer, and but three bears shot.)"

John W. Jordan, "Rev. John Ettwein's Notes of Travel from the North Branch of the Susquehanna to the Beaver River, Pennsylvania, 1772," "The Pennsylvania Magazine of History and Biography," XXV (1901), 214, The Historical Society of Pennsylvania, Philadelphia.

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IN THIS ISSUE

FEATURES

	Page
Old Chisel-Tooth's Secret!	2
By James D. Hockenberry	
Night Patrol	7
By Edward K. Willhide	
On Tasting Your Game	9
By Robert F. Cubbins	
Just Grousing Around	12
By L. James Bashline	
So This Day It Rained	16
By R. B. Stanley	
Sugar Maple	23
By Ken Calnon	
Hunting With the Magic Sticks	24
By The Rev. Joseph Confer	
The Littlest Hunter	27
By Anna Jane Waddington	
The Great Cap 'n' Ball Caper	29
By J. David Truby	
A Northwestern Waterfowl Hotspot	46
By Nick Sisley	

NEWS

Field Notes	34
Conservation News	38
Hunter Safety Education	44
By John C. Behel	

COLUMNS

Tic It Up or Lash It Down (Camping)	48
By Les Rountree	
Hunting With a Bow (Archery)	54
By Keith C. Schuyler	
22-Caliber Handguns (Guns)	60
By Don Lewis	

COVER PAINTING BY KENT PENDLETON

October can bring the golden days that poets and grouse hunters (are they synonymous?) rhapsodize about. It can also bring those gray gloomy days that depress practically everyone, with sheets of rain slanting down in hard cold columns, soaking everyone and everything, blurring outlines, merging inlets and waterways into indistinct patterns, in general making life so miserable that only a certain type of hunter will be found suffering through it . . . indeed, glorying in it. That certain type is, of course, the duck hunter. If you're not one, such actions are beyond comprehension, so we won't try to explain, but we suggest you don't try it. Duck hunting is highly addictive and we wouldn't want to be responsible for your wet seat, sopping socks, pneumonia. . . .

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Say . . .

*Merry
Christmas*

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We Have a Gripe

AS A DEER HUNTER, do you ever have a gripe? Some of you do. I know, because we hear from you. Letters and phone calls come in, a few of you even visit the office to deliver your complaints in person. That's okay. We're always glad to hear from you, whether you're complimenting us or chewing us out. So long as the lines of communication are open, we can thresh out the problems that arise, because we can come to understand a given situation from each other's viewpoint.

But just as something can bother you, it's also possible for something to bother us. To put it bluntly, we have a gripe with our deer hunters. More correctly, we have a gripe with a minority—but a highly significant percentage—of our successful deer hunters.

As you know, the white-tailed deer is Pennsylvania's big game animal . . . "big" in the sense of "most important" as well as in size. This is one of the prime animals responsible for most of our million-plus annual license sales. Whether you bagged a deer during the season, saw as many as expected during the off seasons, heard rumors about starvations during hard winters, read reports of road kills—these and other situations have provided food for discussion with other hunters and perhaps resulted in communications to newspapers and radio and television stations as well as to the Game Commission. Unsuccessful hunters in particular are only too glad to tell us what's wrong with our game management program, the number and distribution of antlerless licenses, browse cutting and winter feeding programs, etc. This is normal and understandable. Every deer hunter is interested in the deer herd, and this, plus the fact that he buys a license, gives him the right to express an opinion.

However, as mentioned above, we too have a gripe, and it's an important one. It's with the hunters who bag a deer and then due to laziness, oversight, lack of interest or whatever, fail to return the deer kill report card that's supplied with the license. There can be no good reason for not doing this—it takes only moments to fill out and is postage paid—and we can think of no valid excuse. Yet over the past dozen years, when our reported whitetail harvest averaged 100,000 animals, some 20,000 to 30,000 successful hunters each year failed to return the report as required by law. In years of big harvests, this number reached 50,000.

It takes a lot of time and money to determine how many deer kills are not reported. Game Protectors and deputies throughout the state record the license numbers of hunters checked or seen with deer; these are forwarded to Harrisburg on a special form and checked against the file of reported kills. In order for results to be statistically accurate, many thousands of these reports are made—as much as 10 percent of the total harvest. This procedure makes it possible for our wildlife biologists to adjust the deer management program to compensate for the incomplete data returned by hunters. However, the time and money required here could be diverted to other aspects of management if all successful hunters simply mailed in their reports. And, if for no other reason, this should interest you as a hunter, since the money which pays for the whole procedure ultimately comes out of your license cost. Wouldn't you rather have your dollars spent for further hunting improvement than for information which could be collected at practically no cost if an additional one out of five of your hunting pals would send in that little card?—*Bob Bell*



Old Chisel-Tooth's Secret!

By James D. Hockenberry

IN OCTOBER, during the early squirrel and grouse season, I was afield on a beautiful day. Sunny, just warm enough to be pleasant, it was a veritable grouse hunter's dream. My shooting vest with light flannel shirt, leather boots, and a lightweight 12-gauge double, completed the scene for me. Truly a fine day, a good hunt, and a nice bag, for I returned with two beautiful greenhead mallards in my game bag. Yes, I mean mallards, and from grouse cover. Sound strange? Let me explain. You see, I had discovered Old Chisel-Tooth's secret.

We were fanned out, myself and my two hunting companions, in some fine, deserted, overgrown farm country in northwestern Pennsylvania. Working slowly through briar thickets and vine-infested patches of trees, we were mainly just tuning up for the opening day of the general small game season. We meandered across a pasture and swung to our left, following a tiny stream that wriggled toward a small circular woods. To the right of the woods was a gently sloping hill. I stayed on the left-hand rim of the trees, one companion followed the stream, which by now was traversing a rather marshy area, and the third hugged the foot of the bank on the far right. We weren't in the patch of woods more than 20 yards when a shot rang out immediately to my right. This was quickly followed by two more a little farther away. I couldn't see my friends or what they had flushed, so I called, "Did you get him?"

"Him? You mean them!" the answer came back.

I thought they had flushed two singles, as so often happens grouse hunting.

"How many were there?"

"About eight!"

Thinking that maybe my buddy had

fallen, hit his head and was suffering from multiple vision, I started toward the sound of his voice. Inside the ring of trees the ground started to become increasingly soggy, and suddenly I broke out at the edge of a hidden pond. A large mound of mud and sticks protruded up in the middle. It was a well concealed beaver dam. I skirted the water and made my way to where my companions were standing talking.

Approaching cautiously I surveyed them both for visible head injuries. "Eight what?"

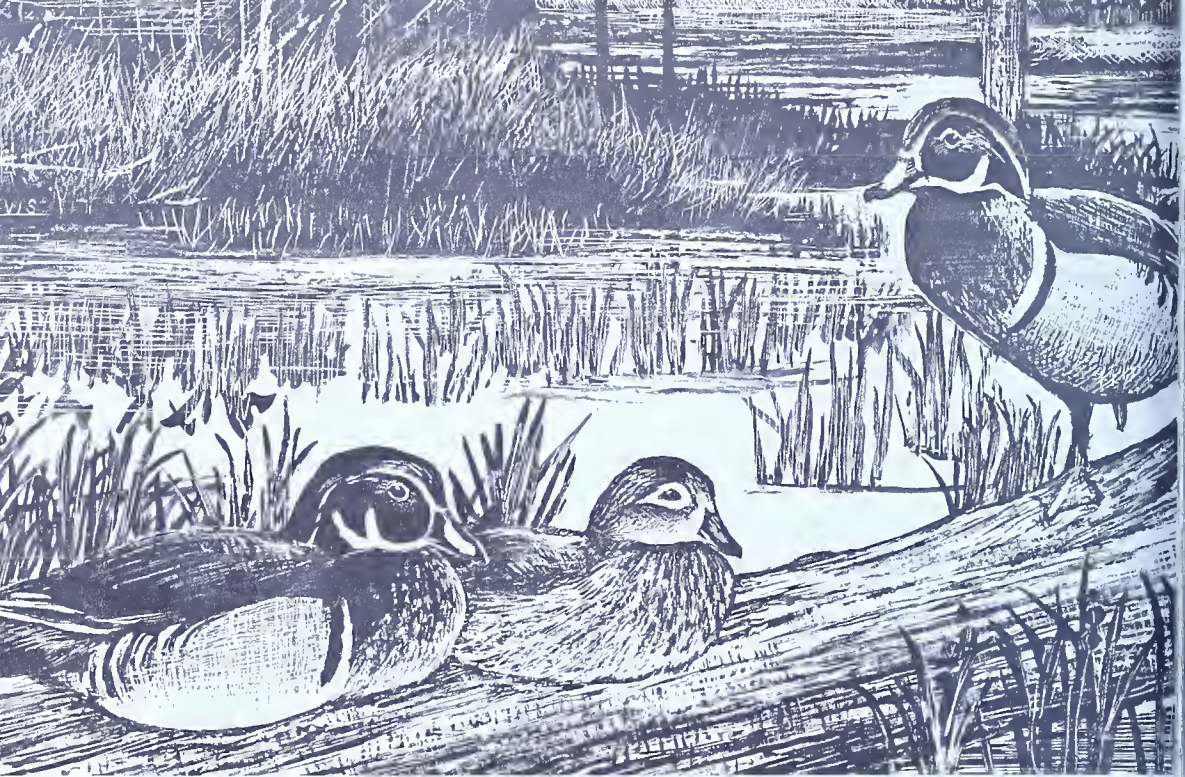
"Eight ducks, all big ones too. Mallards mostly, but there may have been a few wood ducks among them," one replied.

The second one chimed in, "I was following the stream. When I came through the woods and stepped out onto the edge of that beaver dam, ducks seemed to come from everywhere. We were caught completely off guard and both missed."

Immediate Reevaluation

This called for an immediate reevaluation of our hunting plan. The duck season was a week old and we all had our duck stamps, so a pow-wow was held on the spot. We searched our memories, trying to think of all the beaver dams we knew in the immediate area. It seemed like a great way to combine two favorite sports—small game and duck hunting.

We knew of another beaver dam less than a half mile away. This particular one was on a stream that ran through a small, level, rather open valley, paralleled on both sides by sparsely wooded hills. The dam we knew of lay at the far end of the valley. We thought that perhaps our previous experience with the ducks might have been just one of those



IT WAS A STRANGE SOUND. I groped through my memory for recognition: "That's wood ducks, and it's coming from the beaver dam."

isolated occurrences that happen to the person that spends a good deal of time outdoors. We decided to fan out on the end of the valley opposite the dam and work our way toward it slowly, hoping to flush a grouse. We would close ranks as we approached the dam. It seemed best to converge on the beaver dam all together, perhaps 15 to 20 yards apart; so that we all might get some shooting in case there did happen to be ducks there. I must confess that I didn't really give the plan much hopes of working.

In the Middle

I was in the middle, more or less following the course the stream made. We had no luck in flushing grouse, and I began to pay less and less attention to the geography of my surroundings. Suddenly the brush and small trees ended and, plan all but forgotten, I stepped out into an open, marshy area with a small pond on the far end. Fortunately my friends were more alert, and as our predetermined destination grew near they began to close the gap between us, funneling toward our ultimate goal.

Our approach must have been quiet enough, for when I stepped out into the marsh, six magnificent mallards rose off the beaver dam in a fashion that I have only seen re-created by outdoor artists. Gaping at the unexpected rise, I saw their extended webbed feet, their wings curved in a desperate attempt to gain altitude, the splashing water. I almost forgot I had a shotgun. I vaguely recall taking a few steps forward. The shotgun met my shoulder and cheek. The last drake, slowest on the rise, folded at the report of my modified barrel. To my left a shot . . . a miss! They were up now and leveling off, straight toward and low over the head of my partner on the left. I couldn't shoot till they passed. When they were clear the full choke roared as my double passed in front of the lead duck. Down but thrashing. A shot from my right, and another one folded. It was all over in a flash.

My feet were cold and wet. Looking down, I saw that I was standing in 18 inches of water, with 12-inch leather boots on. Too late to stay dry now, so I ran out into water above my

knees, to where my second drake mallard was thrashing. It was an incredible experience that netted me not only wet feet, but a brace of mallards and an idea.

Within a couple of days, we had an opportunity to try out a different approach to our newly discovered duck bonanza. I only had a few hours to hunt in the morning and then had to return to my job in Pittsburgh. We got up at five, ate a fast breakfast and proceeded to the area of the first beaver dam mentioned in this article. This dam is located not more than 300 yards from a dirt road. We parked our vehicle, got out and, deciding that we were a bit early, sat on the bank above the road to have a smoke and talk over our strategy. It was that time of morning when the stars retreat from the sky, the night wind has called it quits, and a pitch-black dead calm prevails.

As I struck a match and applied it to my pipe, a weird, eerie, whistle-like sound split the darkness. It was momentarily alien to me. Again it filled the air, seemingly coming from everywhere. It was a strange sound, definitely a whistle, and I groped through my memory for recognition. The third time, I located and recognized it simultaneously. "That's wood ducks roosting, and it's coming from the beaver dam," I whispered to my companions.

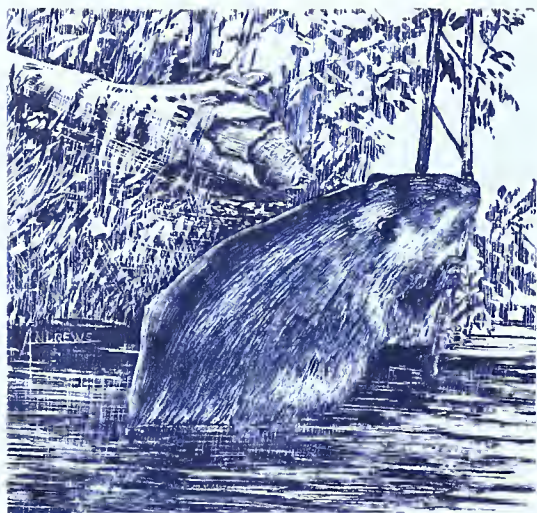
This provided a signal to move out so we split up, made a wide circle well away from the woods containing the dam, and climbed the slight hill on the far side. Our plan was to move down the hill, as quietly as possible, and take up prearranged positions just at the edge of the woods. At 7:15, when it was light enough for good shooting, our skirmish line was to move silently through the bordering trees to the edge of the dam, flushing the ducks out in front of us. We had a good 45 minutes to wait, so I advanced as far as I dared in the darkness, then sat down on the bank to wait.

The lonely whistling of the wood ducks increased till it was obvious more than just a few were present. They kept it up till about daybreak, then fell silent. When the time came I got up and moved to the water's edge. I'll never forget what followed. There had to be at least 50 wood ducks in there. When they took off, the noise of their wings and the disturbance of water was tremendous. They were all pretty well up to my left and toward the other side, and I only got one shot, dropping one into the woods across the dam. The bulk of the flock made a short half circle and flew straight over the last hunter in our line. He was a lad of 14 who was so taken back by the onrushing ducks that he only fired one shot from his 16-gauge pump. He did connect with that one though. There were four of us and we each got one duck—a very satisfying bit of action.

Great Potential

After this episode I was convinced of the great potential in this kind of hunting. First, it offered hunters who had limited time an opportunity for some great duck shooting. Second, and again in relation to the time element, a lot of good beaver dams are located not far from back roads, so that more than one could be covered in a short period of time. And third, you could combine this type of hunting with other game such as rabbit, pheasant, grouse, or even squirrel hunting.

I gave a lot of thought to the subject and decided to do some research. On my next trip north I had my hunting partners stage a hunt for me while I observed. We selected an area, close to our original discovery, that was dotted with beaver dams. My friends were instructed to follow our usual pattern, with one exception. If they did flush any ducks I wanted them to fire just one shot apiece, instead of a barrage, at the ducks, so I could observe their reactions under light stress. I feel that the advantage in this type



THE BEAVER IS A fascinating creature, seeming able to survive in rather close proximity to man. His dams provide many benefits.

of hunting lies in the absence of heavy gunning pressure.

I climbed a high hill with a commanding view of the entire marshy valley we had chosen. The first two ponds produced nothing, but on the third they put up two mallards. I heard the shots and then saw the two ducks climbing for height. After they reached a safe altitude, they made two very wide circles and landed again on another dam, quite a bit away from and behind the advancing hunters.

Three more times that day we staged the experiment. Twice the routed ducks landed again on dams located well to the rear of the hunters, and once they landed in a cornfield, presumably to feed, as it was early in the morning. None appeared willing to leave the general area. My theory on this is that when hunting pressure becomes great on the more popular and much larger bodies of water and swamp area, the ducks seek the sanctuary of the small, secluded beaver dams and potholes.

I continued my research by consulting several local farmers and all

of the duck hunters I knew personally. Some admitted they knew nothing of the potential offered by the beaver dam hunting. Some said they had heard of it, but still preferred the more popular areas. But then I discovered a few who grudgingly admitted that they regularly hunted the beaver dams and potholes. Most of these wished to keep their favorite dams a secret. I found out that not only wood ducks and mallards but also teal are plentiful on the dams.

Some of the landowners and local farmers I talked with told me they knew that ducks were roosting on the dams on their land, but kept it secret because of the threat of hordes of hunters. Everyone agreed, however, that if a hunter was courteous enough to come and ask permission, that he'd be allowed to hunt on their land. Keep that last point in mind. If you do choose a likely spot, ask first. This is a sign of a sportsman.

I went back this past season and again enjoyed some truly great duck hunting. This type of hunting is only productive, however, until the first cold snap. After that the ducks are gone, winging south. If you do decide to look for a spot, make sure there is plenty of food nearby, such as corn or grain fields. Once the immediate supply of feed is depleted, the ducks will move on. If there are ducks in your area, or you live on one of the flyways, try this type of hunting. Make sure it's early in the season, a week or so after opening day. I'll bet you'll have a big surprise in store.

The beaver is a fascinating creature seemingly able to survive in rather close proximity to man. His dams and waterways provide many benefits to other forms of wildlife. As I've related here he's provided a big boost to my duck hunting. Give it a try next season and share with me, Old Chisel-Tooth's secret.

That First Hop's a Doozy

Grasshoppers have been seen 1000 miles at sea.

Night Patrol

By Edward K. Willhide



DISTRICT GAME PROTECTOR Jim Mort with a road-killed deer. Picking up such whitetails is an unpleasant task which often falls to officers on night patrol. All wish that such game could be taken and utilized by licensed hunters, rather than being largely wasted.

IT WASN'T a cold night. All I needed was a fall jacket—a lightweight one that fitted loosely over my long-sleeved shirt. Don't get me wrong, now. It wasn't warm, either. Just a little in between and certainly not what you could call deer season weather. To some people, though, it was time to hunt deer—time to stock up the freezer in the basement with some early, tender venison. You know, the kind that tickles the taste buds just a mite bit better than what Pennsylvania's 130,000 or so successful—and legal—deer hunters bring home each year.

On this early November night, Franklin County District Game Protector Jim Mort; DGP Al Pedder, who was then a trainee working out of the Ross Leffler School at Brockway; and Bill Upperman, one of Mort's deputies, were patrolling the Amberson Valley area of the county. I was along through the courtesy of the Game Commission's division office in Huntingdon, to take photographs and notes for a story which was later published in Chambersburg's *Public Opinion*.

Mort stationed the Game Commission car on an unpaved lane leading off the hard-surfaced valley road, and we rolled the windows down part way. The muffled roar from trucks on the nearby Pennsylvania Turnpike occasionally distracted our attention, but

aside from that disturbance, it was an ideal night for lying in waiting.

Manning a position such as this involves a combination of listening and watching. Keeping an eye out for the flash of a spotlight was the most important facet; since the "spotlighting after midnight law" had taken effect and since it was now well past that hour, anyone shining a beam on fields and/or deer was breaking that law. More probably, anyone committing such an act had every intention of taking home some meat.

The Halloween moon had passed the skies over the southcentral portion of the state just a week before, and the overwhelming majority of hunters in the Commonwealth were concentrating their thoughts and efforts not on whitetails, but on bunnies, pheasants, grouse, squirrels, and quail—each one a legal target during the regular small game season. Most of these men wouldn't even begin thinking seriously about deer for at least a week or so. And then their minds would be trained not on hunting, but on scouting for trails, crossings, and buck rubbin's.

A hunting season, in the eyes of most hunters, runs parallel to the specified shooting hours. That is, with certain exceptions, it begins each day one-half hour before sunrise and ends each evening at sunset. Therefore, only a comparative handful of people actually makes personal contact with one of the state's District Game Protectors outside of those times. For some Pennsylvanians, and a few nonresidents, too, the meetings happen in the dark of night under extremely undesirable circumstances—often while practically all other hunters are lying at home snug in their bunks.

Not Long to Wait

We didn't have to wait long that night to spy a potential whitetail poacher. Less than 30 minutes after we'd settled at the post, Pedder's eyes picked up the flashing of a spotlight at the base of the opposite ridge. Our conversation about high school football ended abruptly, and Mort turned the ignition key to move in on the vehicle right away.

We watched the spotlight silhouette the treetops against the low cloud ceiling as the spotters switched their attention from one side of the dirt road to the other. At that point we couldn't tell if they were seeing deer or not, since we were still a good distance away, but we knew that the white-tails had been out earlier.

Mort piloted his way to another lane near the intersection of the dirt and macadam roads. If the vehicle, which turned out to be a pickup, turned away from us, he would, of course, give chase. In the event the driver wheeled toward our position, Mort and Pedder would stop it for a road check.

From our second station, we had a good view of a large, low-cut field. As the truck approached the crossroads, the beam of its powerful spotlight fell on three deer. We waited for the blast of a shot to break the night's silence, but none came. The pickup rolled on to the stop sign, made a left turn to-

ward us, and Mort, Pedder and Deputy Upperman hustled from the car to the highway to flag it down. The events of the next several moments brought a puzzling maneuver from the passengers and driver of the pickup and some rapid-thinking action from the officers.

The spotters, it seemed at first, had decided to run through the halt signal. Pedder immediately darted back to the PGC car, while Mort and Upperman, starting in reflex action, legged it after the truck, which finally halted about 50 yards down the road. The back-up lights flickered, then the brakes again. Mort reached the truck, identified himself, and shone his flashlight into the cab. Upperman and Pedder checked out the bed of the truck. I saw Mort walk beyond the front of the vehicle on the passenger's side and bend over.

When he came back to the driver, he was carrying a 22 Hornet rifle—a loaded 22 Hornet. The tricks violators use in trying to avoid detection, like dropping a firearm out of a window or door, aren't new to law enforcement officers. The ensuing conversation resulted in an acknowledgment of guilt, a field arrest, and payment of \$100 fines. Revocation of hunting privileges in the Commonwealth accompanies arrest for attempting to take an illegal deer.

Such instances occur in some form or another many times throughout the state each year. Night patrol rounds by Game Protectors are set up consistent with needs. They cover miles of roadway and hours of time. The presence of Game Protectors is essential in keeping Pennsylvania a leader in wildlife management and conservation. The state's hunters and residents are setting a good example for other states in cooperation and acceptable performance, but some of our citizens here in Penn's Woods still haven't seen the light. They continue to display an uncontrollable desire to kill deer without regard to the Game Law.



ON TASTING YOUR GAME

By Robert F. Cubbins

WINES, sauces, stuffings, marinades and gravies all contribute to the profusion of exotic recipes available to the sportsman. Only a casual glance at the game recipes in his wife's cookbook will induce excessive salivation, a vacuous sensation in the pit of the stomach, and a dilation of the organs of smell. These concoctions will titillate the taste buds of the most finical eaters; however, it is my contention that they are diabolically conceived to prevent the sportsman from ever learning to differentiate a succulent piece of venison from the nut-sweet breast of young grouse, or the delicate bouquet of a young mallard from the woody aroma of an old tom turkey. In the communal pot, the individual merits of any wild game fall prey to the multitude of beverages and condiments that invariably spoil the finest of culinary treats—a game dinner.

I'm reminded of a beautiful day in October many years back. Bob Brown and I set out to shoot some woodcock. We had made no elaborate preparations for lunch, both of us having grown accustomed to going with little more than a chocolate bar and a drink from a cool spring. As luck would have it, the birds gave us a workout, and at noon we were famished. We'd eaten the chocolate about 10 o'clock, and with the exception of a few stale pecan nuts in Bob's pocket, we had nothing to eat. The day was young, we had no intention of returning to town for a quick lunch, and we were short of our limit. I allowed as how three or four hamburgers and a cold drink would hit the spot.

Suddenly, Brownie bounded up and began gathering hardwood twigs and branches. In no time he'd built a small but hot fire. Throwing me his pocket-knife and saying something about

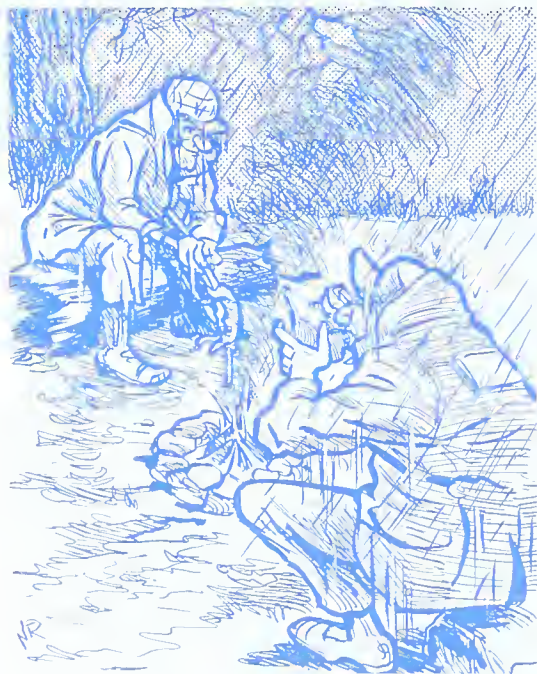
making a spit from green hardwood . . . "and be sure it's hardwood" . . . he took four birds from our coats, which had been hung over a branch to dry out. As I watched him make his way to the small stream just below us, I thought, "Now here's a resourceful guy."

A few minutes later we sat hunched before the fire watching the juices drip from the woodcock and smacking our lips as the coals sizzled. Mind you, we had no salt, no pepper, no nothin'. Just woodcock! I still dream about the flavor of those birds.

In the years that followed, we made one concession to custom: we took a little salt and pepper dispenser with us and a packet of sweetened tea.

Now, you can say what you will about the great outdoors and its power to convert the mediocre to the sublime. "Anything tastes better cooked outdoors on a fall day over a hardwood fire," you say? Right you are! There's no doubt about it. There are too many contributory factors involved to isolate

WE LEARNED TO ENJOY every kind of provender the woods had to offer. We ate rabbit one cold day when we were so wet and miserable our teeth chattered as we chewed. . . .



any one, however. Perhaps food cooked in the woods tastes better because we are satisfying some atavistic urge to complete the job in the proper context. Whatever it is, there's no denying the fact.

But Bob and I learned something that day. On subsequent hunting trips, we learned to enjoy every kind of provender the woods had to offer, and we added nothing to our salt, pepper, and sweetened tea grub wagon. We ate grouse, turned ever so slowly on a hardwood spit. We ate long strips of venison skewered on a stiek. We ate rabbit one cold day when we were so wet and miserable that our teeth chattered as we chewed. The *best* filet mignon still couldn't touch it. None of it was adulterated with the usual plethora of kitchen goodies reputed to enhance the flavor or tenderize the meat. We learned to savor the subtle differences in texture, taste and bouquet. And the so-called "gamey" flavor of which the newcomer to the game board complains became an old wives' tale . . . at least until we'd been guests at a game club dinner, and the cooks served venison that had been "properly" hung, beaten, pounded, stretched, glued, marinated, and cooked with everything from mushrooms to dandelion shoots. The pheasant arrived tasting more like Hawaiian pineapple than a regal bird with flesh so palatable as to render sweetbreads sour.

Oriental Concept

The Orientals have a concept of art appreciation which is closely akin to the appreciation of game: "Observe one painting at a time; do not juxtapose that which may detract or alloy." It makes good sense. If game is, as most of us avow, a delicacy, why must we treat it as if it were common fare and subject it to the kitchen malpractices of those capricious cooks who wish to perpetuate the image that no food exists which they cannot improve upon?

If you haven't tasted *game* in years, it's about time to try. Arrange to have

your wife eat dinner with some of her friends. This way you'll avoid a barrage of comments; for example, "Oh, it will be much too tough" . . . or . . . "You *can't* cook that unless you par-boil it first." . . . "Aren't you going to marinate that dreadful bird?" . . . "You *aren't* going to ask poor Charlie to eat that half-cooked, *wild* bird, are you?" (Chickens are, of course, immaculate, and not to be compared with "wild" birds that live in the woods in all that dirt and rain and snow.)

Now that your wife has left and the kitchen is yours, try one of the following:

1. Put the charcoal in your cooker. When *all* the coals are ash white, cook your game. Turn it only once. Save the salt and pepper for the table.

2. Wrap game birds in foil and cook in a slow oven. Set the heat to 350 degrees. Woodcock need nothing but their own juices. Add a little water and a strip of bacon or two to grouse and pheasant. Salt and pepper before they go in. Time? Woodcock, 20-25 minutes; grouse, 45-50; pheasant, 60-70. Turkey? Check the number of pounds and compute time . . . alas, you may have to use the cookbook here. But *forget* the stuffing.

3. Drop your game into the pressure cooker. (It won't blow up.) Add one-half cup of water. Salt and pepper again. Woodcock will cook in 15 minutes, 20-25 is long enough for grouse and pheasant. If you want a delicious broth on the bottom, add a whole onion and a bay leaf. Incidentally, the whole meal can be prepared in the pressure cooker. Add carrots, onions, and potatoes to make a meal fit for a connoisseur.

4. Fry venison in an iron skillet. Throw in enough fat to grease the pan



ARRANGE TO HAVE your wife eat dinner with some of her friends. That way you'll avoid a barrage of comments on your efforts.

well. Cut up an onion, add salt and pepper, and cook *slowly* over low heat. Don't cook too long. You can also try steaks and chops on the charcoal. They're great! Roasts can be wrapped in foil and put into the oven or cooked in the pressure cooker with a whole onion.

5. Some night when you feel like giving your wife a rest, volunteer to cook some shish kebab. Cut fat (or most of it) off venison chunks, separate each chunk with tomatoes, green peppers and onions. Salt and pepper. Cook over the charcoal. Your wife will tell you that men intimidate the butchers and naturally get better meat. You've done the shopping, of course, but in an outdoor market.

All seem too uninvolved, too unimaginative, too simple? Maybe. But just start by going hunting without your lunch. Take some matches.

And Doubtless There Are More

New animals discovered during the 20th Century include the African okapi, a relative of the giraffe; the kouprey, a wild ox in Cambodia; the Congo peacock, New Guinea crocodile, blind white salamander in Georgia and a blind white crayfish in Florida.



Just Grouseing Around

By L. James Bashline

I HATE GROUSE. I hate them with an unlimited passion. Twenty years ago I vowed to get every grouse that ever flew in Pennsylvania, or any other state. Fortunately, I have never been able to accomplish my vow. They still continue to fly where my shot pattern is not. They will probably manage to do so forever and I will continue to shout loud violent names at them. According to the head shrinkers, hate is very close to love on the emotional scale so I suppose (although I'll never admit it to the grouse) that I must love 'em too.

Occasionally I drop a grouse when all factors are favorable—and making factors favorable is what this piece is all about. With all types of hunting some luck is involved. It's often a case of "being at the right place at the right time" or some other cliché. But the hunter can affect his luck by doing some things right. For example, there are two basic ways to hunt grouse if you don't own a grouse dog. Since there are few good grouse dogs, let's

consider the solo grouse hunter and how he can make use of the "fast" and "slow" techniques. Hunters who employ one type or the other are really trying to psychoanalyze the bird. Both systems work, but since they are exactly opposite we must be hunting a fickle bird indeed. That we are.

The Fast Method

Bob Carter, an incurable grouse hunter from the Pittsburgh area, is the best example of the "fast" method that I know. Bob is in his middle 30s, in good physical condition, shoots a short barreled over/under and brings it up *f-a-s-t*. The kind of cover he hunts in southwestern Pennsylvania is thick and tangled. Made up of thorn apple and wild grape thickets, this terrain offers some of the toughest shooting imaginable. Yet Bob and his hunting companions limit out on grouse every year.

Their basic style consists of charging through one of those jungle patches with some 20 yards between hunters, never breaking stride unless

they fall down. I mean, those guys really move. Bob's theory is, "If you move fast, but reasonably silently, you can approach a nervous grouse much easier than pussyfooting along with frequent stops. Those stops," says Bob, "make the grouse edgy and will cause them to flush wild."

By a wild flush, he means maybe 35 yards away. They take most of their shots at under 20. In that kind of cover they have to. Bob also thinks that the human voice affects grouse too. As his group runs through the brush, the only sound is limbs and briars brushing against the duck pants. Now, I don't agree with all of this, particularly the part about human voices, but he shoots a lot of birds, so I won't knock it.

The Slow Method

One of the great masters of the "slow" method was Earl Brown of Coudersport in Potter County. Known to thousands of Pennsylvania sportsmen as the friendly clerk in Ridlon's hardware store, Brownie's advice on shooting matters was part of every transaction. Grouse shooting was his specialty and I've seen him shoot enough — including some doubles — to feel certain his advice was good. He moved through the woods very slowly, in shooting position at all times or so it seemed. Field edges and fire trails were his favorite haunts, and every dozen steps he would stop and survey the landscape. Brownie worked on the premise that each pause would make a grouse tighten up a little more, until that last pause (at close range) would make it so nervous it would have to fly. The noisy charging style, Brownie believed, put all the birds into the air long before you approached shooting range. Brownie's shotgun usually carried a modified choke. His shots, on the average, were between 25 and 35 yards.

With these thumbnail sketches of two fine grouse shots and two effective grouse hunting techniques described, where are the rest of us left? Prob-



WHETHER YOU USE the slow method or push them fast, grouse make one of the world's greatest game birds—a trophy to be proud of.

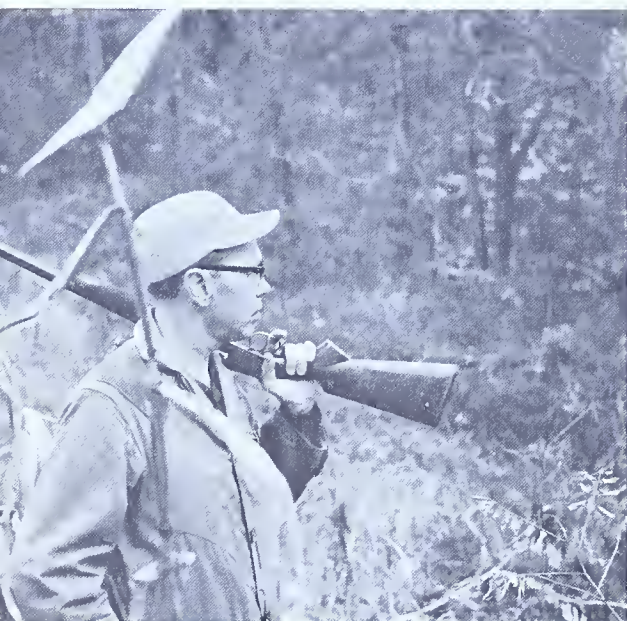
ably grouse-less, since we still have to hit the blamed things. But there is a message here and I think after 20-odd years of grouse chasing I know what it is.

Move with a speed that suits the cover.

Good hunters learn to hunt certain favorite tracts in the style that produces in that particular place. By trial and error they know that one kind of approach works best there so that's the technique they concentrate on. Bob Carter's "up San Juan Hill" kind of grouse hunting would, by most counts, fall flat on its face if he applied it to another kind of terrain. The birds would probably see and hear him coming a mile away and either take off or neatly scurry out of the way. Brownie's slow walk and wait style would not do too well in ultra-thick cover because the birds would merely have to walk a few feet and be out of the line of attack. Grouse will take to the air much more readily than will a ringneck, but they are not averse to walking either. This is particularly true of an old cock grouse that has a hunting season or two under his ruff. The answer seems to be for the hunter to mix up his hunting style.

For many years I was the walk-and-

wait kind of grouse hunter. I saw a respectable number of grouse and couldn't see any reason to alter my style. A grown-up forest fire burn taught me that there was another way. This particular spot was on a very steep hillside in McKean County. Everything had been nearly leveled by a fire about seven years previously, and now fire cherry, some aspen and



IT TAKES A LOT to get Ned Smith away from his drawing board when a deadline is fast approaching . . . but a day after grouse can do it.

a tangle of briars had attracted a good grouse population. A thick covering of teaberries was the prime food. I had pussyfooted in my usual way through this mess and had but one empty shell to show for it. I was hearing flush after flush, but the shots were just not being offered. Ten yards too far every time.

I needed help, I figured, so two flankers were recruited to prevent those birds from escaping to left or right. Hunting speed was not changed. Still no results other than hearing a lot of whirring wings. One of my hunting companions, wise in the ways of Lancaster County ringnecks, made the suggestion that we pull off a "cornfield rout." At that time, I didn't know

a ringneck from a rhinoceros, so I asked him just what a cornfield rout was. He explained that we would line up a few yards apart and run like idiots right through the tightest part of tangle. I protested that those grouse would leave for the next county without a hope of offering a shot . . . but so what, what we were doing wasn't working either.

Off we went and—you guessed it—we hadn't moved 40 yards into the briars when a teaberry-laden grouse bounced off the ground right in front of my face. *Bang!* I had my first running grouse shot! What I mean is, I was running and not the grouse. To cut the boasting to a minimum, we worked that patch through three times and the three of us grassed five grouse with probably a dozen shots.

Psychology Involved

In an attempt to work out the psychology involved here we must try to put ourselves in the grouse's position. In thick cover, Ol' Ruff thinks he's hidden pretty well. Unless something is just about to pounce on him, all he has to do is slip off to one side and nothing will spot him. That's good thinking and it usually works. Grouse can't run as fast as some other game birds, so when a hunter really bears down on one, its first thought is to freeze. The next reaction as it continues to hear that thundering approach is to fly. Hopefully, the bird decides to do that when he's right in front of us.

For some reason or other, grouse don't seem to worry much about things that are a long way off. A lot of noise may disturb them, however, so the reverse seems to apply when working through open cover or walking a fire trail or field edge. The slow walk and look approach here is the right one. At least it seems to be for me. The birds in this case must think, "That thing moving slowly toward me doesn't really mean any harm and if I just stay put he'll pass me right by." We all know that this very thing happens on

occasion, and without a dog we undoubtedly do pass up a number of birds. Ideally, for the hunter, the grouse apparently reasons that each pause is a bit more threat to him. The hunter is sizing up just where that bird might be. Finally (again we hope the range will be close enough) its nerves are starting to tingle and the grouse lights out of his hiding place and the hunter's nerves do a little tingling.

All of this speculation may be picked apart, since it's impossible to get inside a grouse's brain and find out exactly what he is thinking. Perhaps it seems foolish to some to even discuss it. Most experienced woodsmen agree, however, that to successfully hunt any species it eventually becomes necessary to do a little amateur mind reading. The good trapper learned early in the game that half of his required education was to think like a fox or mink. We'll never completely master thinking like a grouse, but it's fun to try.

For the grouse chaser blessed with a dog his style of hunting is to a large extent governed by the kind of dog he has. A close ranging flushing dog such as a springer, cocker or one of the retrievers can do a fine job in conjunction with the rapid technique.

As long as the hunter can keep his dog in close he's going to get some shooting, usually more shooting than he would by himself. As a bonus the dog will find those downed birds much quicker in thick cover than he will. A dead grouse is tough enough to spot in an open field, to say nothing of a leaf-strewn thicket.

For hunting the more open areas and field edges, one of the pointing breeds can be well suited to the easy walker. Let the dog do the serious looking and if he has class he'll nail that bird down until you can get there to do the shooting.

If you have hunted grouse for a number of seasons you have unquestionably learned that there are certain individual birds that will not conform to any hunting style. There is the individual who will fly straight at you . . . and you'll miss him. And the rather common bird that *always* flies out of a treetop . . . and you'll miss him. And the bird who counts your steps and knows when the wrong foot is forward . . . and, of course, you'll miss him, too. Hunters could never exterminate the ruffed grouse — and isn't that a wonderful thing? And I suppose this conclusion indicates something else. I don't really hate grouse at all!

Notes on the Susquehannock Trail

Dave Drakula's article, "Alone on the Susquehannock," which appeared in the June GAME NEWS, has aroused much interest among hikers from Pennsylvania and surrounding states. Many already have tried it, and some of these have been ill-prepared. Others have been greatly over-prepared—in the sense that one couple took the trail lugging, in addition to all their other equipment, four gallons of water! We want to point out that it is very difficult to hike the entire trail in four days, as Drakula did. Persons in average condition should allow at least six days for the trip. Or simply hike only a portion of it. This is feasible because the trail crosses roads in different places, allowing a hiker to start or stop at will. Topographical maps on which the Susquehannock Trail is shown are available from Potter County Recreation, Inc., Box 245, Coudersport, Pa. 16915, for \$1.25 per set, postpaid. No one should attempt hiking the trail without these.



SO THIS DAY IT RAINED

By R. B. Stanley

A FEW MILES above West Pittston, a narrow, brush-covered island splits the waters of the Susquehanna's north branch like a wedge. And along the eastern edge of the island, just below the point, is a small eddy. In this eddy one fall day not too long ago were some decoys—not too many, for there's no use confusing a duck, explained my companion Mike Stevenson, who had set them out. Mike now was squatting some thirty yards to my left in a small brushy depression, ears cocked hopefully and eyes trying to pierce the predawn darkness.

I was sitting behind a pile of river debris which had accumulated against a large punky log, using my parka for a pillow and meditating upon the follies of people bitten by the hunting bug. It takes a certain, perhaps unusual, mentality to make one arise before other people have gone to bed, stagger half a mile through various muddy fields and briar-tangled thickets and cross half a river in a small, leaky boat carrying enough equipment for an expedition to the South Pole, with the only objective being the sudden demise of a duck. This is especially inane when it is considered that one of the above-mentioned duck hunters, namely me, doesn't like duck. To eat, that is. Not even the tame variety without the No. 6 shot seasoning.

However, in Pennsylvania it is possible to hunt ducks before the regular small game season opens, and any shooting, even at targets, is better than no shooting at all. It was this reasoning that placed me behind the punky log long before dawn, on my first duck hunting trip, the little Browning auto-loader cradled in my arms.

The shotgun, perhaps, was an indication of my hunting preferences. Of

16-gauge, with short, ribbed barrel and bored improved cylinder, it is about perfect for most upland gunning; but for a duck gun it is not exactly what the experts recommend. However, I didn't think I could afford to buy a new shotgun just for the chance of shooting a duck. My wife concurred with this opinion, possibly a little more emphatically than necessary. She even went so far as to suggest that I start selling some guns instead of buying more, but this is just a feminine move designed to put the male on the defensive and is so well known to all hunters that it requires no elaboration. Anyway, Mike insisted that the Browning would be okay over decoys, so that settled the gun question.

So now we sat in shirt sleeves and waited for the dawn. Duck hunting brings to mind cold winds and sleet and gray clouds lowering over the hill-tops, but somebody in the weather department must have goofed. It was unseasonably warm, and I commented on this to Mike, expressing the wish for a little rain.

"Well, they've been having quite a bit of it upstate and in New York," he said. "Maybe we'll get some here."

This turned out to be one of the most modest predictions I've ever heard.

Dawn on Schedule

Dawn finally got around to breaking. Right on schedule, I guess; it just seemed late. A lone duck beat downstream, too high to offer a reasonable chance. I rearranged my seat, trying to find a more comfortable spot, and studied the river. It looked a bit menacing in the early light. It seemed higher than it should be and was spotted with floating debris ranging

from small tin cans to large logs. I located a stick at the water's edge and made a mental note to keep an eye on it to check the river's rise.

A low whistle from Mike directed my gaze upstream and I felt a surge of excitement when I saw the thin line of geese coming. They were high, too high for any shotgun, but there was a wild beauty in the ragged line passing ghost-like against the gray sky that could make an upland hunter momentarily forget briar thickets and tangled swales. They were long out of sight before my heart settled down to its normal rhythm.

For some time nothing shootable appeared and I was watching a little dipper duck playing among the decoys when Mike came over. "I think we'd better get out of here," he said. "There's no shooting, and the river's coming up fast." I looked for the stick I had marked. It was under water. "I think we'd have better luck hunting the potholes back in the mountains," he continued.

"That suits me," I said and we



IT WAS A SMALL BOAT, not much over eleven feet in length and about thirty inches wide, and every movement had to be calculated carefully.

emptied our guns and began gathering up our equipment. We pulled the little boat from its hiding place and tossed in the decoys. Mike sat down and pulled off his rubber boots. "Just in case," he said. I followed suit and then we gingerly stepped into the boat. The leakage stopped delicately between our bare toes.

Line Through Trigger Guards

I ran a line through the trigger guards of the guns and tied them fast. It was a small boat, not much over eleven feet in length and about thirty inches wide, and every movement had to be calculated carefully beforehand. Mike took the oars and we slid into the current. "I can't pull upstream," he said. "We'll just take it across and tie up wherever we can get in." Once a half-submerged log almost side-swiped us and Mike asked, "Did you ever go swimming this time of year?"

"I went through the ice once in January," I said. "But I made a resolution never to do it again."

"Well, I'll be darned," Mike said. "Look back there."

I turned carefully, just in time to see four mallards pass directly over the point of the island where we had been hiding. I raised my finger, pointing it like Wyatt Earp with a Colt 45, and went, "Bang, bang, bang!"

"Did you get any?" Mike asked.

"Ol' Betsey never misses," I said.

We got to shore without any real trouble and lugged all the gear through the muddy fields again, only in the opposite direction—uphill. We dropped everything at the edge of the road and I waited there while Mike walked back to get his pickup. A small boy passed on a bike and yelled, "Hey, where's all the ducks?" I gazed at him sourly.

The sky was growing darker by the minute and a few drops of rain dotted the windshield as we crossed the river at Pittston and headed toward the mountains.

"I told Dick Keller we'd stop for him if we got back this way," Mike

said. "He's a neighbor of mine. Young fella, and a darn good shot. He wanted to go for deer with the bow this morning, but he's probably back by now."

I nodded agreement. By the time we got to Dick's home the rain was falling lightly but steadily. We found Dick rolling a bunch of rubber decoys and shoving them into the back of his hunting coat.

"Where's the buck?" Mike asked.

Dick grinned ruefully. "I had a shot," he said. "Back in the swamp. But no luck. Arrow hit a branch."

He got his shotgun and we all crawled into the pickup. It was a little crowded, but we didn't have far to go.

"Thought we'd go back to Buck Pond awhile," Mike said. "Should be some ducks there in this kind of weather, and we can get along without a boat."

"Do you think we can make it up the hill in the truck?"

"I don't know. We'll go as far as we can and walk the rest."

Up the Yellow Mud Road

We followed a muddy road, sometimes rutted deeply and water-logged, for several miles through the mountains. We had trouble at only one point, where the road turns back at an acute angle and goes uphill. What with the smeary mud and slick-wet oak leaves and no weight in the rear of the pickup, we thought we might be walking from there; however, considerable shoving by Dick and myself while Mike rode the gas and clutch managed to complete the maneuver. The spinning wheels covered us with rich black mud approximately a quarter of an inch thick, but we scraped this off and continued for possibly another half mile before the road became impassable.

The rain was drumming down nicely now, making a pleasant sound on the truck roof. We ate a sandwich before continuing on foot for the better part of a mile.

Buck Pond is a small body of water



WHILE WE SQUATTED there in the rain, a thought came to me. "You know something?" I said. "Duck hunters are crazy."

on top of a mountain. It probably is not more than a few feet deep in most places and much of it is choked with small, dead trees and brush which make excellent waterfowl cover. The slashing rain and low-hanging mist gave it an eerie, other-world atmosphere that made the comfortable weight of the shotgun reassuring even though logic insisted there was nothing to be concerned about.

Finally Mike said, "You two can work around that side of the pond and I'll go this way. If anyone jumps anything it may go toward the others. We'll meet around the other side somewhere, okay?"

We agreed, and took off in different directions. The trees grew out of the water which varied from ankle to knee depth where we crossed one corner of the pond. For a minute I tried walking on the half-submerged roots, but they were too slippery. When I slid off it sounded like a hippopotamus in a bathtub.

There was a faint trail along the edge of the water and we followed it for some distance before I saw Dick make a motion, then point out among the clumps of brush in the pond. I squinted my eyes against the rain and

made out a swimming duck. It was a mallard drake, paddling unconcernedly. He appeared to be enjoying the downpour. (I was thinking wistfully of the predawn "blue-bird weather.")

We stalked toward the water's edge, quiet as Indians are supposed to be, and waited for the duck to reappear from the brush clump into which he'd paddled. The rain dropped off my parka hood, ran down my nose and collected in large drops on the end. I stuck out my lower lip and blew lustily. Neat, I thought, admiring the pretty spray which resulted. Undoubtedly I could have made my own little rainbow, if there had been any sun thereabouts. There wasn't.

Up Like a Jet

The duck chose this precise moment to explode from the surface of the water, going straight up like a jet. I flipped the Browning to my shoulder and put a load of magnum 4s precisely where he had just been.

Another shotgun boomed in the soggy atmosphere and the duck dropped heavily. "I gottim, I gottim!" Dick yelled excitedly.

"You sure did," I laughed.

"It's the first duck I ever killed," he yipped happily. "I killed him. I killed him dead!"

"They don't come any deader," I agreed.

He looked at the duck floating thirty yards away. "Now how am I going to get him?" he wondered.

I studied the distance with the air of a professional (I've never killed even *one* of the darned things), measured the height of his hip boots, then said confidently, "You can make it. Just wade out after him."

Dick looked somewhat dubious. "I've heard there's quicksand up here some places," he said.

"Well, if you go down out of sight and don't reappear within a reasonable length of time, I'll see that a suitable marker is erected," I said. "*To Dick and His Duck*, I'll have chiseled on it. How does that sound?"

"That's almost worth drowning for," he laughed, and waded out to pick up his duck. His boots were almost high enough.

"Look at this," Dick said when he got back to the slightly drier place where I waited. "This is a hen. I thought we saw a drake paddling around in there."

"It was a drake," I said. "He paddled into that brush and shoved out the hen; then he must've paddled straight away from us while we were shooting at her."

"Just like an old buck letting the does go first," Dick said. "Sometimes I don't think these dumb animals are very chivalrous."

"We should be so stupid," I grinned.

We met Mike a few minutes later. He was standing on a ridge of rocks high above the pond, his back hunched into the slashing rain, water dripping off the visor of his cap. "Get any?" he asked.

"Dick got one after I missed it." We briefed him on the one that got away and debated trying to raise it again, but decided it was almost impossible under the circumstances.

"I didn't see anything at all," Mike said, "so maybe we'd better try somewhere else."

"How about Crystal Lake?" Dick suggested. "We'd have to walk in about two miles, but it's easy going on that old road."

While they debated the next move I tried to take some pictures of the intrepid hunters and the rugged country, but something seemed to have gone wrong with the little 35mm camera. Despite the fact that I'd been carrying it under my parka, it seemed to be slightly waterlogged. The man who later worked on it asked, rather caustically, if I'd been taking fishing pictures—underwater.

The entrance to the old road to Crystal Lake was blocked to traffic; it would have been impassable in spots to anything less efficient than a Jeep, anyhow. Before starting up it I carefully considered the distance versus



THE DUCK WENT STRAIGHT up like a jet. I put a load of magnum 4s from my Browning precisely where he had just been.

the weight of my rubber boots and the fact that I was already thoroughly soaked from head to toe; then I sat down on the running board and replaced the rubber boots with a pair of light leather ones I had shoved under the pickup seat that morning. "I can't get any wetter, regardless," I said.

In nice weather the short hike back to Crystal Lake would have been beautiful. Woods flank the old road, with many clumps of silver birches and nooks of rocks and ferns. But now the rain poured down steadily, starting freshets that overflowed old ruts and crossed the road at low places.

Half an hour's steady walking brought the lake into view. It was fairly large, much larger than Buck Pond, with a number of islands scattered through it. These were not the flat, bushy islands typical of those found in rivers, but high-humped and covered with evergreens to the water's edge, and reminiscent of islands in northern lakes. There was no wind at

all, and the surface of the lake looked smooth from a short distance.

We moved around the right edge, stumbling on the rocky path and sloping through knee-deep water in spots. Other hunters were spaced at intervals as we passed. Some were wrapped in blankets or ponchos, some just squatted disconsolately under leaking pines, but none showed any inclination to go home. We stopped once to squat down when half a dozen ducks crossed ahead of us and disappeared and while I was squatted there a thought came to me. "You know something, Mike?" I said. "Duck hunters are crazy."

Mike blinked the rain out of his eyes and considered this solemnly for some time. Finally he said, "I don't think they're as crazy as fishermen."

"That's not possible," Dick agreed, in all seriousness.

I laughed out loud.

We continued on until we had passed all the other hunters, then separated to find positions that suited our personal

tastes. There was a lot of huckleberry brush with some small pines, and I found a place under a tree which broke the force of the rain a little. It wasn't dry by any means, but it wasn't actually uncomfortable. There was something soothing about sitting in a little nook, listening to the rain hiss through the trees around me and watching it slap into the lake, each drop raising a two-inch geyser and making the whole surface look like a large rasp.

At varying intervals a duck or two would pass across one of the islands or the far side of the lake and once I thought I heard several shots, but there was nothing close.

The time passed, as it always does, and the rain continued, and I sat there almost lulled to sleep by it and I was happy. I hadn't shot a duck — and

maybe I'd never shoot one—but that wasn't important. There's much more to hunting than just killing.

When Mike and Dick came by it was almost dark. Neither had fired a shot, and we walked most of the way back to the truck in silence.

"You know something, Mike," I said after awhile. "It's a good thing we brought Dick along. We'd have been skunked without him."

"Yeah," Mike laughed. "And the best part is, we had as much fun today as he did, but he's still got to clean that critter when he gets home tonight!" Mike threw his sopping coat into the back of the pickup. "But there's just one thing more I want to mention," he said to me. "Next time we go hunting, if the weather's nice, don't you even mention the word *rain*!"

Book Review . . .

The Firearms Dictionary

While Bob Steindler, editor of "Shooting Times," was writing an earlier book, *Modern ABC's of Guns*, he realized that an immense number of technical and semi-technical terms related to guns and shooting had come into the language through the years. However, there was no single reference to which a beginner in the game could turn for an explanation of these. This book is his attempt — and a rather good one — to rectify this situation. Format is simple, an alphabetical listing of terms, with a paragraph or so of explanation or definition. Typical entries are: Action, Blowback; Angle of Departure; Energy Formula; Ricochet; Shot, Bridging of; Trigger Bar, etc. Even confirmed guncranks will find some material here that's new to them, and beginners will doubtless consult it often. (*The Firearms Dictionary*, by R. A. Steindler, Stackpole Books, Cameron and Kelker Streets, Harrisburg, Pa., 1970. 288 pp., \$7.95.)

Coincidence

I just received my Big Game Record Book. I noticed a measurement that was the same as mine (143.2). It belongs to a Mr. Lombardo in Imperial, Pa. So I stopped in to see Mr. Lombardo's deer. I did not get to talk to him, but I did speak to his wife. She said that he shot his deer on December 4, 1961, in Raccoon State Park, Beaver County. I also shot mine in Raccoon State Park the same day and year. I think this is interesting, particularly since Raccoon Park is not as large as many of our State Parks.

Robert Trimble, Georgetown Pa.

Sugar Maple

(*Acer saccharum*)

By Ken Calnon

THE BRIGHT October sun glowed warmly on the hillside, reflecting the brilliant colors of red, orange and yellow of the sugar maple trees. The trees stood out like fires burning brightly.

October is the month of flaming foliage. Dogwood, sassafras, sweet gum and red maple are just a few of the more colorful trees that add beauty to our countryside in autumn. But to me, the sugar maple is the most beautiful colored of all our trees.

Sugar maple trees attain heights up to 100 feet, with a trunk diameter of two to four feet. On young trees the bark is smooth, and gray-brown in color. But a large mature tree has scaly, brown bark, with deep vertical furrows running through it.

The leaves are three to six inches across, and are usually five-lobed. When it is growing among other trees, the trunk is often long and branchless. However, when growing in the open, it usually has a short trunk, with a large, well-rounded crown. Each flower is attached to a long stem and together with several other flowers, forms a cluster. The flowers develop with the leaves.

The sugar maple is a very important tree for two reasons. First, its hard wood is used in making fine furniture, interior trim, cabinets and hardwood flooring. Second, its sap is the source of maple syrup and sugar for making maple sugar candies. Pancakes never tasted better than when they are covered with country butter and pure maple syrup. For the person with a sweet tooth, maple sugar candy has excellent flavor.

To "tap" a tree, drill a three-eighth inch hole, two to four inches deep. Into the hole insert a spile (spout) and hang a pail to the hook on the



spile. Cover the pail with a metal lid. The sap will flow down the spile and into the pail.

To make maple syrup, the sap must be boiled for many hours, until all the water is evaporated. The remaining liquid is pure maple syrup. Many of our northcentral counties produce large quantities of quality maple syrup.

Yes, the sugar maple tree is important to Pennsylvanians for its beauty in autumn, its maple syrup and maple sugar confections and for its beautifully grained wood.



Hunting With the Magic Sticks

By The Reverend Joseph Confer

"SIMPLE—nothing to it! Just pull the little white string back and kiss it good-bye." That's a typical answer to people who approach me with the query: "How difficult is it to bag a deer, especially a buck, with a bow?"

If you have never given hunting with the "magic sticks" a try, you may be gullible enough to buy this slight looseness with the truth. However, if you are one of the pioneer Indian prototypes and have tried to slay a whitetail with the magic sticks you are aware of being in the middle of a put-on.

The reason I lay this lie on the investigator is that the truth is almost as unbelievable, especially to the seasoned "long-gun" deer slayer. Actually, all it really takes to tag a 6-point, 160-pound buck is about four years of practice along with daily lessons learned during each heart-pounding, hair-raising, arrow-shattering miserable failure.

Oh, I know what you're thinking as I say four years. Such a statement im-

mediately brings to mind the many annual exceptions, such as the 18-year-old boy who buys a bow Thursday, shoots a dozen field points on Friday, and drops a 12-point trophy early Saturday. Yet in my case, and having listened to the case histories of many frustrated fellow archers, four years is a rather modest confession. Actually, when you enter the woods in archery season you have to depend upon and try to recall every bit and piece of knowledge about hunting you have ever acquired. I have hunted Arizona's mule deer and chased the elusive whitetail for better than 16 years, and believe me, I scanned my memory banks thoroughly as I tried to outsmart this favored of Pennsylvania's wild residents.

A particularly rewarding pursuit began at the tail end of the 1968 rifle season. I had racked up my third consecutive year of failure at bow hunting, and from the appearance of things was going to continue the losing streak through rifle season.

One of the problems of being a clergyman is that you move around a good bit, which means that about the time you have one area pretty well scouted you have to move to a new country. This year's new country was Blair County and via preseason scouting I had located a nice herd. Although I studied this particular herd rather consistently, they still had me puzzled. The animals were in the fields at night, three bucks included, and on the back flat before noon, but how they were getting there was a question that plagued me every wind-howling, bone-chilling, unrewarding morning of December's rifle season.

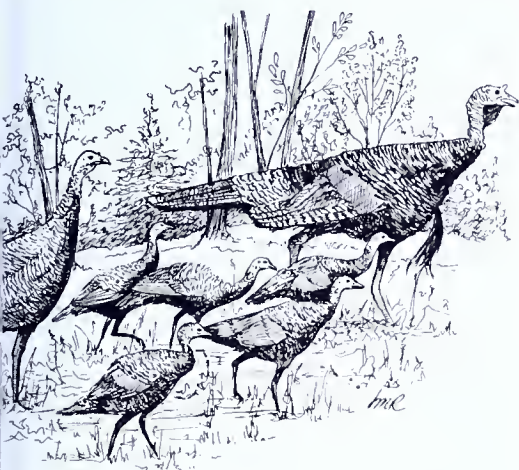
Then it came—a fresh tracking snow. After a last failing vigil I decided to let the white powder give some badly needed answers. I've often discovered my bucks in the midst of scrub oak and laurel, so this was where I started to wade through. A weary while of tramping and I had almost decided to believe in (you've heard of flying squirrels) "flying deer." Finally the fresh snow revealed the mystery: a trail that was way out of line in relationship to the fields they were feeding in. These silly deer were not moving in their normal beeline tradition; instead, they had developed an upward route as crooked and winding as

a drunken sailor's attempt to return to ship. The trail moved in an almost "S" shape. One thing sure, the trail was old and had been used for a good while, maybe years. Logs were pulverized by hooves sliding over them, and the frozen ground had many old signs showing through this almost snowless route. "Oh, well, too late this year, but I'll see you fellows nice and early next year, and that's not a threat, it's a promise!" I muttered.

Vow Kept

December's vow was kept during a scouting trip on a short-sleeved early-September evening. My boy was along. Though young, he's already able to tell where deer, turkey and squirrel are working. We were hidden in a stand of heavy trees, not 20 yards to the left of where I remembered the bottom of the "S" route had been engraved into December's white. From the abundance of sheared twigs, fresh droppings, and disturbed leaves, it still was a very hot spot.

While trying to swat mosquitoes without making any sudden movements—a difficult procedure!—I suddenly realized the green wonderland that enveloped us had made a move that didn't correlate with the gentle waves of the wind. With a finger across my lips and a directional nod, I caused my boy's attention to land on a doe and her two youngsters. The fat shiny lady was looking at us already! She turned away, then suddenly snapped her head up again. Several times she repeated this trickery, I guess in an effort to catch us off guard. After a few motionless minutes she calmed, evidently convinced we belonged to summer's heavy tapestry. She and her fawns meandered to within 15 yards. Then a buck appeared. Not with the usual flash of horns as they glitter in the cold light of December; instead, a fuzzy-beamed 8-point entered the stage. Then another, also an 8-point. Then several more bucks! The sum total of that "buck barrage" turned out to be two



WE GOT A BONUS—a chance to watch a strutting, bearded gobbler which arrived with his whole tribe—the chicken-size chicks and a beautiful hen.

8-points, one 6 (met him again later on), one spike and a fantastic 12-point whose velvety splendor parted the heavy undergrowth as he plowed through. There were also four feminine types and five shaky-legged, polka-dotted offspring, as cute as their dads were majestic.

Bronze Bonus

We would have been completely satisfied without a bonus but we got one just the same when the 6-point looked back up the mountainside as if to announce the arrival of a strutting, bearded gobbler. He was one of those almost bronze creatures, and he had the whole tribe along that evening: five chicken-sized chicks doing double time to keep up to the old man's strutting, and of course a beautiful hen was bringing up the rear.

I followed up on that preview and seemed to have the herd exactly where I wanted them, but it wasn't until three weeks of misadventure had elapsed, including a near miss on one of the 8-points, that I finally scored. I got to my stand at 7 a.m. and at 7:10 I saw a deer coming. He had a nice rack, clean and polished, that made the taxidermist part of me crawl with anxiousness. He seemed a bit nervous as he stepped behind a maze of tallish scrub oak.

I finally saw an opening, pulled 45 pounds of magic into the stick and kissed it good-bye. A very near miss. He took three bounding leaps and came to a screeching halt about 20 yards away. I calmed my engine and glued my gaze on a dark spot behind the shoulder as I listened to myself: "Pick a spot, pick a spot, pick a spot."

I released another magic stick and then, preceded by a slight cracking noise, the buck vanished. As he ran I saw blood on my aiming point. I didn't bother to wait, because I was certain the buck wasn't going any distance. He didn't.

I present this successful archery adventure not in the form of boasting but as an invitation to you reluctant would-be-first-timers and to you discouraged tried-and-failed fellows to join the action.

One of the main reasons I invite you is that this is a chance to hunt a new animal. Oh, they have the same four legs, brown shag, and black noses, but they are not the same animal that blunders across an opening in December, confused by all the hunters in the woods. These animals are calm, fully aware of the few unusual man smells, and are not confused by man scent in all winds. These creatures know ways to evade and disappear that would make Houdini, on one of his good nights, look like a green amateur. Part of the pleasure known so well by archers is just meeting and getting to know this "new" animal.

Archery is all pleasure: beautiful weather, uninterrupted hunting, and all the heart-stopping suspense a body can stand. It has the aggravation of being on the green of a par five in two and then three putting. Yet, it also holds all the excitement of a hole in one, as a "magic stick" finally finds its way through those unnoticed twigs and branches that have so often defeated you before, and this time elects you a member of the elite group of successful bow hunters. I don't know any other satisfaction like it.

Just a Wanderer

Of the few animal species that migrated from South to North America after a land bridge had connected the two continents, the porcupine has traveled the farthest north to Labrador and Alaska.

*Being a True and Complete Account of the First Day's
Hunt and the First Ringneck Brought Home by . . .*

The Littlest Hunter

By Anna Jane Waddington

IT WAS THE opening day of small game season—and the ceremonial rituals were already in process. The alarm rang before dawn. The aroma of fresh perked coffee mingled with that of boot grease as last-minute preparations were made.

The Littlest Hunter felt “of age” this morning; and had a mug of diluted coffee with his platter of scrapple and eggs. “Are you taking Faith to the woods with you, Dad?” he asked.

“That kitchen-kenned setter? Not today!” came the reply.

Another mug of coffee, more hunting chatter, and then the sound of the car engine that would take big hunters up to the mountains for turkey.

The Littlest Hunter—our son Bill—fought back the tears and reluctantly let his daddy go alone. “Don’t forget to bring one home, Dad!” he called. Then, in the biggest voice he could muster, “Well, Mom, I’d better get ready!” The little one was going to have to settle for local hunting this time.

With boots all laced and gun in hand, he paused to give Mom a kiss. “See you later. I’m taking Faith with me. I think she’s a good huntin’ dog!” And off he and our Gordon setter went to the great out-of-doors—the Littlest Hunter and his pup.

Dishes were no more than put away when the door burst open and the Littlest Hunter, in his very proudest voice, exclaimed, “Look at the ringneck I got, Mommy!”

Now then . . . mothers of little hunters grow rather accustomed to the fabrications of “I just shot a . . .” so the customary reply followed. “That’s fine.”



HOW PROUD WAS the Littlest Hunter! “Do you think Daddy would be even prouder if I took off all the feathers and got the meat part out by myself?” he asked.

But wait! Out of the corner of her eye, Mother did see a ringneck and the proud little hunter holding his gun. “Where did you get that?”

A logical explanation followed. . . . “I shot it.”

Prodding for details, the rest followed: “After I shot it, I said to Faith, ‘Go and get it,’ and she brought it back to me. Won’t Dad be proud of me now?”

It sounds like a very routine “first game” hunting story. But the Littlest Hunter was only four years old. And the gun was no more than a glorified piece of wood. And the hunting field was his backyard driveway. Obvi-

ously, a hunter had injured the pheasant. It glided near the Littlest Hunter, who "aimed and fired" about the same time the bird dropped. And his kitchen-kenned pal retrieved the bird.

How proud was the Littlest Hunter, convinced that he had "fired" the effective shot!

"Do you think Daddy would be even prouder if I took all the feathers off and got the meat part out all by myself?" he asked. But Mother (being a typical mother) convinced Littlest Hunter that *that* part could wait until

Daddy got home! And the pheasant *was* more impressive in his finery.

It was plenty late when Daddy and his hunting party reached home. But the Littlest Hunter had remained awake to tell of his day. The big hunters, who came home empty-handed, were indeed surprised to learn how the four-year-old had a ringneck to provide for the table.

Which just goes to show you never know what's going to happen when you take one boy, one dog, and the opening day of hunting season, and mix them all together!

Dogs Killed More Than 1300 Deer During Winter

Despite continued pleas and warnings by the Game Commission to dog owners to control their pets last winter, canines killed at least 1305 white-tailed deer in Pennsylvania in the first three months of this year.

Veteran Game Protectors said it was the worst winter for rampaging dogs in memory.

One year ago, for example, known deer losses to dogs for the months of January, February and March totaled 297. For the entire 1969 calendar year dogs killed 527 whitetails. Annual losses of deer to roaming canines normally run about 500.

Overall, deer mortality for the first three months in 1970 totaled 5233, compared to 3948 for the same period last year. The figures do not include winter-killed deer.

Field officers indicated that most of the dogs involved in killing deer this past winter were household pets. Only a small percentage of the losses could be traced to feral (wild) dogs.

Book Review . . .

Gun Digest, Silver Anniversary Edition

Anniversaries are always something special, and this 25th edition of *Gun Digest* maintains that tradition. The biggest ever—480 pages—editor John Amber has included 32 beautifully reproduced pages, "Guns of the World in Color," among its 50 full-length articles, and of course the extensive catalog section has been updated. Lead article is James Serven's "Guns of the Western History Makers," which gives insight into the firearms used by frontiersmen such as Jim Bridger, Kit Carson, John C. Fremont and others. Other outstanding articles are John Dutcher's "George Schoyen—Riflemaker," "The Double-Barreled Gun," by Merrill Lindsay, Ken Warner's "The Knife," "Guns and Game Shooting," by Derck Partridge, and, for a comic bit, "Letters to Jim Hack" by the gun editor of *Shooting & Blasting*. (If the names of author and magazine are phony in this one, the letters aren't!) As always, this book is a must for shooters. (*Gun Digest*, ed. by John T. Amber, Gun Digest Co., 540 Frontage Road, Northfield, Ill. 60093, 1970. 480 pp., \$6.95.)

Tired of Modern-Day Metallic Cartridge Shooting and the High-Intensity Crack of Super-Velocity Ammo? Then It's Time to Give Some Thought to . . .

The Great Cap 'n' Ball Caper

By J. David Truby

THE BEAUTIFULLY balanced handgun let go with a big, throaty roar, filling the air with a billowing cloud of white smoke. It was the first time I'd ever touched off a percussion revolver, yet that initial shot last year turned me into a hardcore cap 'n' ball fan.

These old front-loaders are making a real comeback, as more sportsmen are discovering the thrill of loading their own just as great-granddaddy did over a century ago. There's a wonderful delight in shooting a percussion revolver, despite getting your hands and clothes covered with smudged fouling and dirty grease—not to mention that you and your clothes will end up smelling like the inside of a burned-out powder keg. Then, of course, there is the obligatory ritual that follows the fun of shooting—an hour or so spent cleaning up your gear and yourself. Yet, in the face of all that, shooters love their percussion revolvers.

What Do You Need?

What do you need to enjoy cap 'n' ball shooting? Obviously, a revolver is the first requirement. Since no one who knows anything about the subject is going to dirty or damage an original model antique that's easily worth a small fortune, some smart gunsmiths started producing replicas of the old-timers about a decade ago. You can pick up a faithful reproduction of an old Colt or Remington cap 'n' ball revolver in a choice of many models and prices, in either 36 or 44 caliber.

"In buying replica guns, you get exactly what you pay for—even trouble," was the sage advice of Don Coble of State College, many times a national



DON COBLE, ONE OF the deans of the black powder school of champion marksmen, squeezes off a shot from author's replica sixgun.

champion at muzzle-loader shooting, and the man who broke me in on the science—or art—of percussion guns.

In addition to a safe gun, you'll need the "makings." You can find these at your local gun shop. Buy a pound can of black powder, FFFG grade, and a supply of tinned percussion caps in size 10 or 11, depending upon the model of your revolver. You'll also need some lead balls in the appropriate caliber. Naturally, you can melt your own lead and mould your own bullets, but that's an advanced lesson in itself. To start out, buy commercially moulded balls.

That's all that's needed to get you shooting, and it can be done for under

\$70. Of course, you'll eventually gather up all sorts of accessories, like powder flasks, bullet pouches, cappers, a display case, etc. These are non-essentials as far as shooting goes, but you'll end up with many of them, just wait and see if you don't. However, for now, the gun, powder, caps and balls are all you need to blaze away.

Before you go dashing off to shoot your gun, disassemble it completely according to the manufacturer's directions. This will acquaint you with the simplicity and beauty of the mechanics of the revolver and give you a chance to clean off any grease that remains from storage. Before putting it back together, put a dab of grease on the base pin and lightly lubricate the lock parts. Now you're ready to feed and fire your new piece of hand artillery.

No Smoking!

As a note of caution, though, be advised that the No Smoking lamp is out from this point on. *Black powder and percussion caps are highly sensitive to heat and flame, and react violently to both.*

Now, carefully set the hammer at half-cock, which allows the cylinder to rotate freely. Hold the gun muzzle up and carefully pour a measured charge of black powder into each chamber. The proper powder charge is usually about 25 grains of powder.

Note: *you must use only black powder.* Modern, smokeless powder might blow the cylinder apart. Please be certain you are using the correct powder.

When you have powder in each chamber, carefully place a lead ball on the chamber next to the one under the rammer. Rotate the cylinder to bring the ball under the rammer. Slowly and evenly increase the pressure on the rammer handle, forcing the ball down into the chamber. The ball must be completely seated in the chamber so that no portion of it protrudes above the chamber mouth, or

the cylinder will not rotate. This is why a proper powder charge is important, as too much powder will not allow the ball to seat properly. You will be able to hear a slight scrunching sound as the ball compresses the powder charge, and this is normal.

Next, using a popsicle stick or medical tongue-depressor, pack grease in the empty space around the ball inside the chamber mouth. I've found that old kitchen favorite Crisco works very well for this job. There are two important reasons why you must do this. (1) Grease provides a lubricant for the ball, and softens fouling; (2) Grease prevents powder flash from the fired chamber possibly setting off a chain of explosions in the other chambers which could send bullets flying out the front of the gun in all directions. According to Don Coble, who explained this to me while we were on his sideyard firing range, this is quite a thrilling experience. I nodded and packed the grease on a little heavier.

Finally, when all the chambers are loaded and greased, carefully place a percussion cap over each of the six nipples at the other end of the cylinder. Your gun is now "charged" and ready for action. You must handle it most carefully, as an accidental blow on the hammer or directly on a cap could discharge a load. The only safety device on these revolvers is to rest the hammer in one of the safety notches between the nipples.

Cloud of Smoke

Shooting the cap 'n' ball revolver is no different than using any large caliber, single action gun, except for the cloud of smoke that blots out the landscape in front of you and your target. After you've had a few lungfuls of acrid smoke from the black powder, you'll start to wonder why more Civil War soldiers didn't suffocate during battles when thousands of these charcoal blasters were hanging dense clouds of smoke all over the country-

side. But you're out today, blasting away for fun. So enjoy yourself now, because the real job starts when you come home from shooting.

Cleaning a cap 'n' ball revolver is a chore that simply must be done, and must be done properly. There is no acceptable shortcut or easy way out. Black powder fouling and residue blasts its way into every nook and cranny of your gun during firing, and it is harsh and corrosive to metals. To protect your gun, you must clean it thoroughly and totally.

To start the festivities, fill a basin with boiling water, add some commercial black powder solvent, or simply use any good household detergent. Disassemble your revolver completely and put it, except for the wooden grips, directly into the mixture in the basin. Let everything soak for a couple of minutes while the solvent and hot water loosen the fouling. Then, clean the bore and cylinder chambers with a rod and patches soaked in the solution, using the same techniques you would use with any handgun. A cloth and an old toothbrush will handle the smaller parts like nipples, base pin, springs, etc.

Wash Off Crud

Once all the metal parts are scrubbed clean, rinse everything in the hottest tap water you can draw until all the residue and crud is washed away. Then fill the basin with hot water and heat the whole thing to boiling. While this is happening, pre-heat the kitchen oven to 225 or 250 degrees. Then, lift out each part with kitchen tongs, blow off any excess water, and place each part on a cookie sheet. The sheet with the parts goes into the oven for two or three minutes. When you remove the parts from the oven, spray them lightly with oil while they're still hot. When cooled, parts should be wiped with a clean cloth and immediately assembled. Finally, wipe the assembled gun with a lightly oiled cloth.



THE MAKINGS OF A cap 'n' ball caper . . . all that's needed for an afternoon of blasting away—gun, powder, balls, grease and percussion caps.

Actually, this job is not as time-consuming or difficult as my explanation seems. It is vitally important, though, that the gun be thoroughly cleaned in this manner just as soon after firing as is possible.

Can shooting a cap 'n' ball revolver be *all* that much fun? No one really knows except the fellows who've tried it and are as stuck on it as I am, and most of us are too busy having a ball to do much talking about it. Like tasting a new food, shooting the black powder guns is a fine experience, and you'll never know if you like it until you try it.

I hope you'll soon accept my invitation to join the rest of us having fun on the great cap 'n' ball caper.

Importers and Manufacturers of Replicas

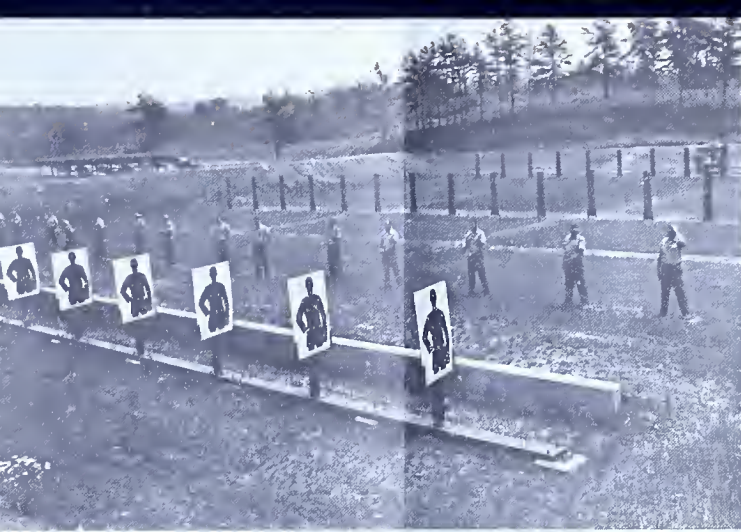
Following is a list of the major importers and manufacturers of replica firearms. Most have literature they will send prospective shooters.

Centennial Arms Co., 3318 West Devon Street, Chicago, Ill. 60645.

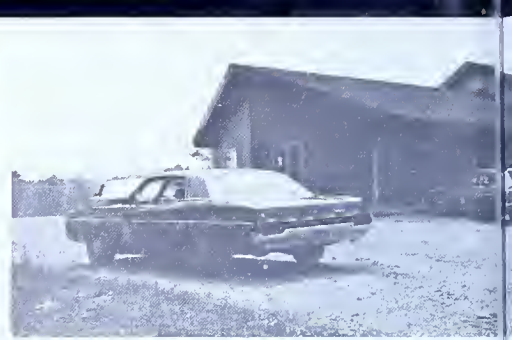
Dixie Gun Works, Union City, Tenn. 38261.

Navy Arms Corp., 689 Bergen Boulevard, Ridgefield, N. J. 07657.

Replica Arms Co., Box 640, Marietta, Ohio 45750.



DISTRICT Game Protectors, above and at bottom, firing on electrically operated silhouette targets.



REGISTRATION BUILDING, and equipment. Rest rooms are located nearby.

New Range

PENNSYLVANIANS will soon have a new range for their use. Called the Seotia, it is under construction and when finished will be owned by the Game Commission and built on State Game Land 176 in Centre County. The range will be in operation—a rifle range suitable for 25 firing points and targets at 50, 100 and 200 yards, the first a Practical Police course and the second a bullseye course with 25 targets. These three ranges can be used simultaneously. The ranges will be open daily except when major events are being held.

AS PART of their regular training, Game Protectors will shoot a Practical Police course. A percentage of their shooting is with the left hand—practice that could be important in an emergency.



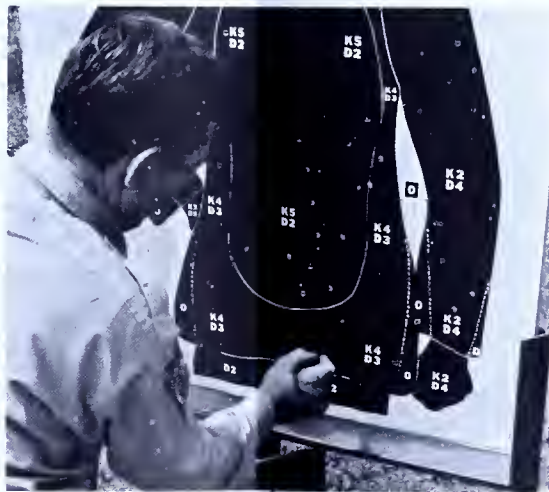


e, also will be used to store
here.

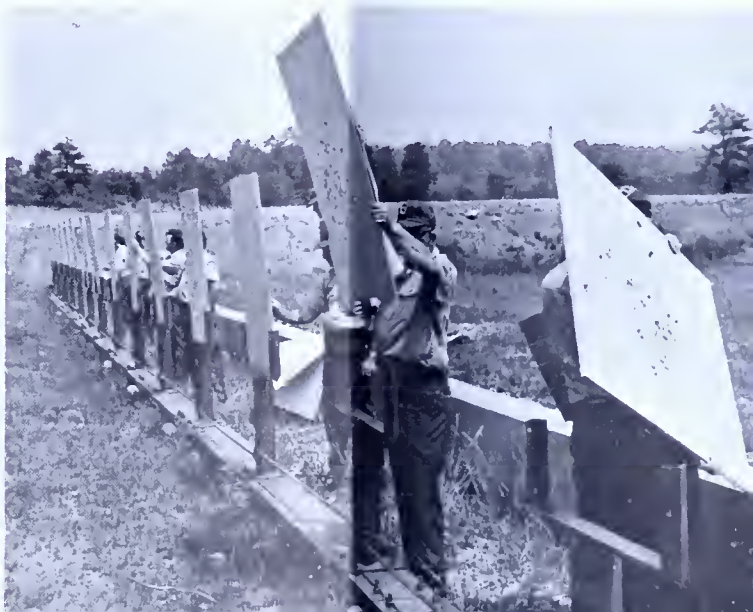
at Scotia

e a new rifle and handgun range
nge, it is entering the final phases
be open to the public. Designed
th Project 500 money, it is located
unty, about 10 miles west of State
rens. Three regular ranges will be
oig- and small-bore shooting, with
and 200 yards, and two handgun
ourse with 15 positions and the
ositions and a covered firing line.
neously. A nearby informal range
es are being held on the handgun

Photos by Joe Osman



REGULAR BULLSEYE looks pretty
small over handgun sights, top. Above, a
good group on silhouette target, shot
rapid fire. Below, targets and backers
are removed after each match.





FIELD NOTES



Shoulda Stayed in Bed

CUMBERLAND COUNTY—A local sportsman told me the following story about a woodchuck hunting trip to the northeastern part of the state. He received permission from the landowner to drive onto a field, park his car and sit by his car and shoot. After scoring on two chucks, he got up to retrieve them. He felt something bump his arm. To his surprise, it was his car door. Evidently the brake had not been set tight. The car was on a downhill grade and our hunter ran alongside, trying to get in, but as he looked ahead, he saw a barbed wire fence and gave up the chase. He figured a few scratches from the fence wouldn't hurt the car too much. But right in the path of the runaway car was a farm pond. The helpless hunter watched as his fully powered, air-conditioned Chrysler New Yorker, whose contents included several custom-made rifles and expensive scopes, went through the fence, into the pond and sank out of sight! On top of this, he was over 200 miles from home and 40 miles from camp.—District Game Protector J. P. Filkosky, Mechanicsburg.

Well—It Was Poaching, Wasn't It?

VENANGO COUNTY—During a party in my home for my deputies and their wives after the past hunting season, I received a phone call from an unidentified female. The conversation went like this. "Hello, is this the Game Warden? I would like to report some poaching going on out here." Needless to say, I envisioned thwarting a violation and having plenty of help, and I proceeded to ask the caller to state the location and so on. I was taken by surprise when suddenly she interrupted and said, "Someone's poaching an egg!" Then the line went dead. At first I regretted that she didn't hear the few choice words I uttered, but after that I wished she could have heard the laughter from me and my deputies that didn't quit until the party did.—District Game Protector L. C. Yahner, Franklin.

Special Thanks

DAUPHIN COUNTY—A cooperative effort to plant seedlings on State Game Lands 264 took place on Saturday, April 25. The seedlings were planted on backfilled strip mines. Approximately 60 men, boys and girls planted 10,000 seedlings on 30 acres of ground. Groups which assisted the Game Commission were: Upper Dauphin County Conservation Club, Wiconisco Boy Scout Troop 146, West Hanover Township Boy Scout Troop 27, Central Dauphin East High School Key Club, Hummelstown Boy Scout Troop 69, Erdman Boy Scout Troop 152 and Erdman Sportsmen Club, and Highspire Boy Scout Troop 109.—Land Manager B. D. Jones, Elizabethville.

Can't Always Be Wrong

LUZERNE COUNTY—One morning a lady asked if I had a report of a bear hit on the highway in the Fernbrook area. She stated she had seen one in her yard the previous evening. She had run into the house to phone her husband. He told her to stay in the house and quit imagining things, that he would call back later. A half-hour passed by and his business slowed down enough for him to call his wife back and tell her to continue relaxing as before, because several customers had come into his store and reported that a bear was hit on the highway near Fernbrook. So you can see that women are right sometimes.—District Game Protector E. R. Gdosky, Harvey's Lake.

What a Night

MERCER COUNTY—Acting in response to a complaint about a red fox raiding a chicken house, Deputy McClelland, friend Pearce and I decided to wait up for the marauding fox. We began our vigil at 9:30 p.m. by hiding in the garage. A word of caution was given to us by the landowner—"Watch out for the calico cat." Then the parade started. The daughter came home at 10:30 to find three men armed with shotguns sitting in their garage. A mouse fell from the rafters onto Deputy McClelland's leg and his stomping quickly broke the silence. A "bait" chicken fell out of the tree. We were serenaded by owls. And finally at 2 a.m., through tired and weary eyes, a medium-sized furry animal was seen lurking in the shadows of the milk house. Slowly I reached for my shotgun. Could it, after all this time, really be the fox? No! It was the calico cat.—District Game Protector B. K. Ray, Sheakleyville.

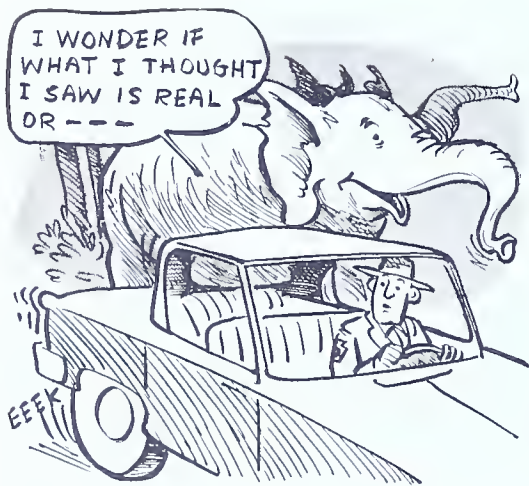
Tempting Fate

ALLEGHENY COUNTY—In the course of my duties I was called to Bradfordwoods to release a screech owl from a suet feeder made of a nylon bag. I climbed up in the tree and found the owl had a toe twisted around several strands of the material. I cut it free and when it flew through the woods, a blue jay chased after it. There is no way of knowing, but if the owl was hungry, he probably got even with the jay that night.—District Game Protector R. B. Belding, Baden.



One Way to Learn

BUTLER COUNTY—Deputy Bob Badger acquired a young skunk recently. His wife Jean was decidedly afraid of the critter, being well aware of its potential. One day Bob sneaked up behind his wife and made a sudden noise while holding the skunk. The skunk became excited and had to be set down before it made good its threat. Just then the family dog got into the act, and with Badger going to the skunk's rescue the end results were as you might expect, with the deputy being the victim. According to the latest word from the Badger family, Bob doesn't tease his wife with the skunk anymore.—District Game Protector W. N. Weston, Boyers.



That'd Be a Problem at Any Time

WASHINGTON COUNTY—At 2:30 a.m., Deputy Jim Locq received a call to pick up a highway-killed deer. Half asleep, he started out to pick up the deer. Just about to the spot where the deer was hit, he came upon two big elephants along the road. He blinked, thinking he was dreaming, but to his surprise the elephants were still there. The elephants were real enough and upon seeing what had happened, he was a very happy fellow. The truck that was carrying the elephants had gone off the road into a ditch, and the owners of the elephants had removed them from the truck. Finally, Deputy Locq, wide awake, went on his way to pick up the highway-killed deer, wondering what he would do with a highway-killed elephant at 2:30 in the morning. — District Game Protector E. D. King, Washington.

Rather Him Than Me

HUNTINGDON COUNTY—Deputy Game Protector Leman Kline recently caught two large rattlesnakes and a copperhead all under one rock on State Game Lands 99. This is contrary to the belief of many that copperheads and rattlers do not associate. —Acting District Game Protector C. E. James, Orbisonia.

Thinkers

ERIE COUNTY—During this past deer season, two hunters from Detroit, Mich., told me what a good thing they had going for them. They are commercial airline mechanics and are able to ride the planes free. During our deer season, they parked one of their cars at the Erie Airport with all their hunting gear. All through the season, when they would get a day off they would hop a plane to Erie, use the car to get to the hunting area and at the end of the day's hunt they would park their car and be back in Detroit for the evening meal.—District Game Protector E. D. Simpson, Union City.



Don't Blame 'Em

CLARION AND JEFFERSON COUNTIES—In Clarion County the future of the bear looks good. Several different bears have been seen recently, including a couple of females with cubs. On one occasion a large bear entered the upper part of a farmer's barn through an open door just before dark. There was nothing in the barn but hay. Nobody knows how long he remained in the barn as darkness set in and there were no volunteers to go in and look for him.—Land Manager L. L. Harshbarger, Knox.

You Said It

YORK COUNTY—Here's how one hunter got a farm to hunt on. Two years ago, while on his way to go hunting, he saw a black Angus steer on the road. He went to the farmhouse and knocked on the door. From inside, the farmer called out, "Can't you read the signs—no hunting!" Again he knocked and again the same reply. The third knock brought the farmer angrily to the door. The hunter quickly stated he did not want to hunt but that the farmer's steers were out in the road. He helped the farmer return his steers to the pasture and headed for his car to leave. The farmer called him back saying, "Mister, you're some kind of a kook, helping me after what I said to you. You can hunt on my farm anytime." The sportsman hunted the farm a few times that fall and the next summer met the farmer in a grocery store. This time the farmer said, "If you want to hunt pheasants next fall, you'd better hunt ground-hogs for me this summer." So everyone is happy. We could use a few thousand kooks like this every year.—District Game Protector R. L. Yeakel, Red Lion.

Real Rare

CLEARFIELD COUNTY—During the week of June 20, two hunters from Curwensville were going for woodchucks and as they drove along a strip mine road they observed what then was thought to be a cougar-like animal dart across the road. They turned the car and came back to the area, and again the animal ran past their car as close as 25 feet. The animal was described as low and long, grayish brown in color and having a long curved tail. Later one of the men looked the animal up in a book and as near as he could determine it was a marten.—District Game Protector J. R. Furlong, Ramey.



On Whose Scales?

BLAIR COUNTY—According to one hunter, Blair County must have the largest woodchucks in the state. This man said he had shot a woodchuck that weighed at least 50 pounds.—District Game Protector J. A. Lukas, Hollidaysburg.

Wish We Coulda Seen It!

WESTMORELAND COUNTY—After catching a raccoon to settle a complaint, I put him in a burlap sack to make him easier to handle, tied the top and put him in a cage by the front porch. The raccoon had plenty of room to move around in the sack and even to lie down if he so desired. Later on I found the door open and the raccoon gone, sack and all. I figured he had chewed through the sack and headed for the woods, dragging the sack with him. I was later informed by my very angry wife that a passing woman motorist, driving a station wagon full of kids, saw this burlap sack going down the road below our house. She told my wife and my wife went galloping down the road, chasing the burlap sack with one very fast raccoon in it. I wonder if I can team my wife up with Mr. Raccoon in the sack race at the Commission picnic?—District Game Protector S. W. Lockerman, Murrysburg.

Hitchhikin' Hopper

CLEARFIELD COUNTY—I have just learned of a new species of wildlife which is present in Pennsylvania. A motorist stopped at the State Police substation in Clearfield and told the trooper on duty that he had just seen a kangaroo standing along Interstate 80. The kangaroo hasn't been seen since. I suppose it was hitchhiking back to Australia because it's certainly too far to hop.—District Game Protector C. L. Keller, Clearfield.



Ain't Love Wonderful?

PIKE COUNTY—A bear study is being conducted in Pike County. Bears are trapped, ear-tagged, weighed, measured and then released. The first bear caught on this study was a large male, taken in the beginning of May prior to the breeding season. It weighed in at 318 lbs. and was in fine shape and very docile. This same bear was captured again on July 30 at the end of the breeding season, and after observing the effects of love, bear style, I am thankful for being born a people. This bear now weighed 260 lbs.—a loss of 58 lbs.—he had a dozen deep bites on his neck and face and a large slash across his shoulder; also a disposition to match his looks.—District Game Protector E. T. Clark, Lord's Valley.

Protective Instinct

LYCOMING COUNTY—One day during June I was walking on a road on State Game Lands 75 near English Center. I had been walking most of the day, looking for fawns and young broods of turkeys and grouse, and was now returning to my vehicle. My returning pace was considerably slower and as I walked along, dragging my feet and looking down at the ground, a large object dropped from a tree, brushing my head as it fell. There in the middle of the road stood a large hen turkey clucking at me. As I stood there she began running around me, still clucking vehemently. I soon discovered approximately 10 young poults lying motionless in the ground under leaves and brush.—District Game Protector D. A. Bernhardt, Jersey Shore.

A Few Left

ADAMS COUNTY—On June 29, a mature bald eagle was observed on the South Mountain by six reliable witnesses. Last summer in the same vicinity an eagle was also observed. This is indeed a rare sight in this area.—District Game Protector S. K. Weigel, Arendtsville.

Could Be

PHILADELPHIA COUNTY—Recently I had the pleasure of meeting Tom Waddell, a conservation officer from one of our Western states. During our conversations, it became obvious that we had the same problems. We agree that we are managing people and not wildlife. Sometimes I think wildlife survives in spite of us, not because of us.—District Game Protector H. T. Nolf, Telford.



CONSERVATION NEWS



Hunters From 40 States Took Pennsylvania Deer Last Year

LAST YEAR, 107,002 Pennsylvania residents reported they took deer here. Another 9,682 nonresident hunters from 39 other states, the District of Columbia and one foreign country reported tagging whitetails in Pennsylvania.

Successful hunters last year came from as far away as Arizona, California and Hawaii.

In three of the past four years, sportsmen from 47 states, the District of Columbia and four foreign countries on three continents have reported taking deer in Pennsylvania. Only Idaho, Montana and Utah hunters have not reported being successful in the Keystone State in three of the past four years.

Ohio, N. J., N. Y., Md. . . .

Hunters from Ohio reported tagging 3,548 deer in the Commonwealth. There were 1,763 from New Jersey who took deer here, 1,644 from New York, and 980 from Maryland.

Canadians reported bagging 26 Pennsylvania whitetails; seven from California scored; 143 from Connecticut were successful; 196 went to neighboring Delaware; and 65 from Florida went north to tag Pennsylvania deer.

Illinois hunters took 85 whitetails; Indiana, 146; Massachusetts, 55; Michigan, 124; Texas, 5; Virginia, 148; and West Virginia, 191.

The fastest growing group in the hunting fraternity, archers, have more than doubled the nonresident harvest in the last four years. The 1966 nonresident archery harvest totaled 304; it rose to 487 by 1968, and in 1969 the figure was 686.

Lest Pennsylvanians get the impres-



NEVIN FISHER of Brogueville with his spike buck taken in Clarks Valley. This "eatin' size" whitetail was one of 107,002 deer taken in state by Pennsylvanians.

sion that nonresidents account for a disproportionate share of the deer harvest, it should be pointed out that residents took 91.7 percent of the 116,684 whitetails reported bagged in the state last year. In 1968, the reported resident harvest was 92.0 percent of the total bag of 141,874, and in 1967, residents tagged 92.5 percent of the total reported harvest of 144,415.



Andrew C. Long

Long Named Commissioner

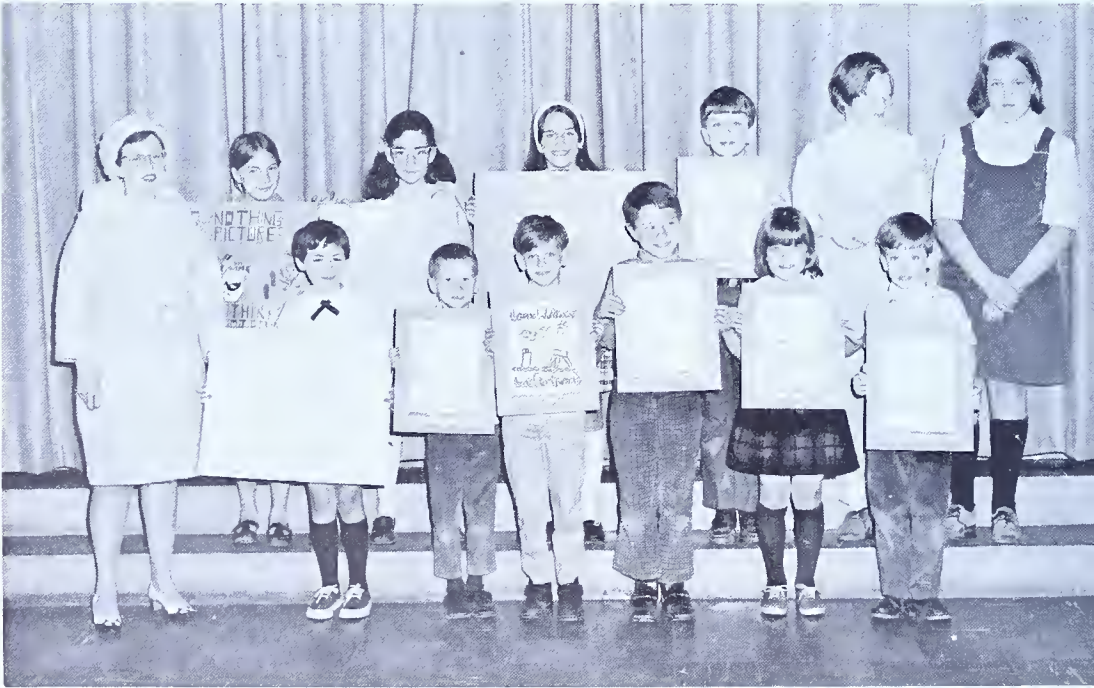
Andrew C. Long, Shamokin, has been confirmed by the Pennsylvania Senate as a member of the Game Commission. Confirmation was made on July 8, 1970.

Long succeeds R. G. Smith of Berwick on the eight-member Commission.

A well-known businessman in northeast Pennsylvania, Long is vice-president of the Amateur Trapshooter Association and is best known to sportsmen as one of the nation's leading trapshooters. He has been an important influence and motivating factor behind this sport in Pennsylvania for many years.

Long previously served on the Game Commission from June 25, 1953, to January 17, 1961. He was vice-president of the Commission from January 1957, until January 1960.

Long's current appointment will expire in January, 1977.



PGC Photo by Lowell Bittner

FOR AN EARTH DAY CONTEST, the elementary school of Oley Valley District, Berks County, made posters based on a **GAME NEWS** back cover slogan, "Take Nothing but Pictures, Leave Nothing but Footprints." Debbie Beroset and Marcie Delp, second and third from left, back row, were the winners.

25-Year Club

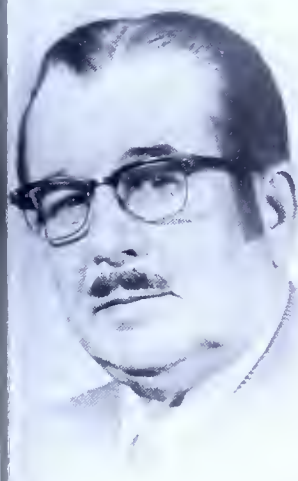
Pennsylvania Game Commission personnel have compiled an enviable record among public and conservation agencies for longevity of service. Few organizations in any area of endeavor can boast so many dedicated employees. The most recent PGC employees to complete 25 years of service are Ralph Britt, Chief of the Division of Propagation; Charles H. Fox, game propagator; Egbert G. Musser, Pittman-Robertson coordinator, who recently retired; H. H. "Barney" Thrush, District Game Protector of Dauphin County; and Clarence Wilkinson, superintendent of the Southwest Game Farm.



Ralph Britt
*Chief, Div. of Propagation
Harrisburg, Pa.*



Charles H. Fox
*Propagator, Wild Turkey Farm
Williamsport, Pa.*



Egbert G. Musser
*Pittman-Robertson Coordinator
Harrisburg, Pa.*



H. H. Thrush
*D. G. P.
Southeast Division*



Clarence Wilkinson
*Supt., Southwest Game Farm
Distant, Pa.*

Warning Against Use of Poisons

Reports are cropping up of excessive loss of wildlife, especially birds, to poisons used in Pennsylvania.

Many persons, most of them unknowingly, have been using pesticides, principally insecticides, in such a manner that the poisonous materials are being picked up by wildlife, with deadly effects.

Pennsylvanians are reminded by the Game Commission that it is unlawful for any person to put or expose in any public place or highway, or on his own lands outside of his buildings, or on the lands of any other person, any poison or admixture thereof, with the intent that the same shall be taken or swallowed by any bird, fowl or wild animal.

This does not prohibit the exposure of poison in a manner approved by the Secretary of Agriculture to meadow mice and pine mice threatening nursery or orchard crops. However, poison used in eliminating these mice must be placed and secured so that the poison will be inaccessible to game or domestic animals and birds.

Some of the insecticides constitute a real threat to humans too. A few drops of many insecticides are as deadly against persons as they are against wildlife.

Game Commission Will Receive \$651,360

Pennsylvania will receive an initial allotment of \$651,360.05 in Pittman-Robertson Restoration and Research Funds for the 1970-71 fiscal year, according to John Doebling, P-R coordinator for the Pennsylvania Game Commission. The preliminary apportionment figure is just over \$75,000 less than last year's initial allotment of \$726,921.47, which is the all-time record. An additional apportionment of P-R funds will be made to the Game Commission later this year. This year's first allotment is below last year's since only \$15,900,000 is being distributed nationally. In 1969, \$18,000,000 was made available to the states initially. The federal funds will be used for the Game Commission's wildlife habitat development and research programs. Each state's apportionment is based on the number of paid hunting license holders and land area. Federal aid programs for wildlife restoration are administered by the U. S. Department of Interior. Funds come from the 11 percent excise tax levied on sporting arms and ammunition sold in the United States.

Under this program, the states spend their own funds on approved projects and then are reimbursed up to 75 percent of the cost.

Hodgdon's Reloading Data Manual No. 21

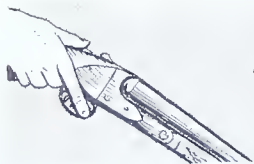
Most shooters who load their own ammunition are familiar with the propellants offered by Hodgdon Powder Co. At the close of World War II, Bruce Hodgdon began marketing the well-known 4895 rifle powder, and in subsequent years added over a dozen others suitable for rifle, handgun or shotgun. The slow-burning numbers such as 4831 and H870 have been particularly popular. From time to time he also has published loading data on these powders, and the latest booklet is this manual which contains pressure and velocity tested results of all the Hodgdon powders. Loads are given for many popular centerfire cartridges, with both jacketed and lead bullets, plus a good selection of shotshell loads. Of special interest are the data on several wildcat 17-caliber varmint loads and the full line of Weatherby cartridges. (*Hodgdon's Reloading Data Manual No. 21*, Hodgdon Powder Co., 7710 W. 50 Highway Shawnee-Mission, Kans. 66202, 1970. 144 pp., \$2.)

OTHER MIGRATORY GAME BIRDS UNDER FEDERAL AND STATE REGULATIONS

Species	Open Seasons First Day	Last Day	Daily Bag Limits	Maximum Possession Limits	Shooting Hours
DOVES	Sept. 1	Nov. 9	12	24	12 o'clock noon, prevailing time, to sunset.
†RAILS (Sora and Virginia)	Sept. 1	Nov. 9	25††	25††	} One-half hour before sunrise to sunset (except on October 31 when the opening hour will be 9 a.m. EST).
GALLINULES	Sept. 1	Nov. 9	15	30	
WILSON'S or JACKSNIPES	Sept. 14	Nov. 17	8	16	
WOODCOCK	Oct. 17	Dec. 19	5	10	
†NO OPEN SEASON on other species of rails.					
††Singly or in the aggregate of species.					
DUCKS	Oct. 10	Dec. 8	3°	6°	} One-half hour before sunrise to sunset in all areas of the state other than Controlled Shooting Sections of Pymatuning Waterfowl Area. Hours for Controlled Shooting Sections at Pymatuning: one-half hour before sunrise to 12 noon (prevailing time) on Monday, Wednesday, Friday and Saturday beginning October 10. EXCEPTION—No hunting anywhere in Pennsylvania before 9 a.m. EST on October 31.
COOTS	Oct. 10	Dec. 8	15	30	
MERGANSERS	Oct. 10	Dec. 8	5°°	10°°	
GEESE	Oct. 3°°°	Dec. 11	3°°°°	6	
BRANT	Oct. 3°°°	Dec. 11	6	6	
EXCEPTIONS: ° Daily bag limit of 3 ducks may not include more than: 2 wood ducks; 1 canvasback or 1 redhead; 1 black duck. Maximum possession limit may not include more than: 2 wood ducks; 1 canvasback or 1 redhead; 2 black ducks.					
°° Not more than 1 hooded merganser daily, or 2 in possession.					
°°° Crawford and Erie Counties, including Pymatuning Waterfowl Area—October 10.					
°°°° Daily bag limit in Crawford County—1 Canada goose.					
Bonus scoup: restricted to waters of Lake Erie and Presque Isle Bay, October 10-December 8, daily bag limit of 2 and possession limit of 4 in addition to above duck daily bag and possession limits.					

ON THE OPENING DAY OF SMALL GAME SEASON, SATURDAY, OCTOBER 31, 1970, IT IS UNLAWFUL TO HUNT ANY WILD BIRD OR WILD ANIMAL, INCLUDING MIGRATORY GAME, ANYWHERE IN PENNSYLVANIA PRIOR TO 9 A.M., EST.
(NO OPEN SEASON—BLUE GEESE, SNOW GEESE, SWANS, NO SUNDAY HUNTING.)

MIGRATORY BIRD HUNTING METHODS—Permitted: Dogs; artificial decoys; longbow and arrow; shotgun not larger than 10 gauge and incapable of holding more than 3 shells; bird calls except recorded or electrically amplified calls or sounds or recorded or electrically amplified imitations of bird calls or sounds; blinds; floating craft (except sinkbox) including those propelled by motor, sail and wind, or both, when the motor of the craft has been completely shut off and/or the sails furlled, as the case may be, its progress therefrom has ceased, and it is drifting, beached, moored, resting at anchor or is being propelled by paddle, oars or pole, or if the craft is used solely as a means of picking up dead or injured birds. Prohibited: Trap, snare, net, crossbow, rifle, pistol, swivel gun or machinegun; shotguns capable of holding more than three shells unless gun is plugged to 3-shot capacity so that plug cannot be removed without disassembling gun; sinkbox, motor-driven conveyance, motor vehicle or aircraft; shooting from motorboat or craft under power; livestock used as a blind or means of concealment; live decoys; recorded or electrically amplified bird calls or sounds or imitations thereof; motor-driven land, water or air conveyance or sailboat used for the purpose of or resulting in concentrating, driving, rallying or stirring up migratory birds or waterfowl; salt or bait. No person may possess or transport more than the daily bag limit or aggregate daily bag limit, whichever applies, of migratory game birds, tagged or not tagged, at or between place where taken and either (1) his automobile or principal means of land transportation; or (2) his personal abode or temporary or transient place of lodging; or (3) a commercial preservation facility; or (4) post office or common carrier facility, whichever one he arrives at first.
FEDERAL STAMP FOR MIGRATORY BIRD HUNTING—No person who has attained the age of 16 years shall take any migratory waterfowl (brant, ducks, geese) unless at the time of such taking he has on his person an unexpired Federal Migratory Bird Hunting Stamp (duck stamp), validated by his signature written across the face of the stamp in ink. A person who has not reached his 16th birthday does not have to have a stamp. This stamp is not required to hunt doves, rails, gallinules, woodcock, or Wilson's or jacksnipe. Federal Migratory Bird Stamp available at U. S. Post Offices.
NOTE: One fully feathered wing or the head must remain attached to each migratory bird (except doves) while being transported.



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



JODIE TRENTALANGE, lone girl in class of 37, receives certification card from **DGP Dick Fagan** while **Deputies Bob Sulzer** and **Hap Gardner** look on.

Student Feedback—Safer Hunters

By J. H. Fitser

THE AUXILIARY gym of Emmaus Junior High School is the scene of periodic hunter safety courses, during which many students are certified after successfully completing the minimum four-hour training. The courses are arranged by the faculty advisors of the school's Field and Stream Club, and conducted by Lehigh County Game Protector J. R. Fagan and Deputies Bob Sulzer and Hap Gardner.

While most nimrod clubs throughout the state offer their facilities for

hunter safety courses, many boys and girls who want the training fail to hear about the offering unless they belong to one of the clubs or are informed by friends who are members. This course is advertised in school, which means some 1100 students are informed of the opportunity.

The facilities are made available through the foresight and cooperation of the school principal, W. L. Lobb. Such a setup provides desks, easy access to blackboards, display easels

movie and/or slide projectors, and screen, all of which make the job of the instructor just a little easier. While the usual procedure was followed and all aspects of hunter safety training were covered, this particular setup has an added advantage. That advantage is feedback.

Kids today are prone to be more critical than we were as youngsters, but this criticism can be used wisely. Since I come into contact with most of these students daily, they feel free to tell me what they honestly think of the course and the way it is taught. Because of this, I can relay the information to Mr. Fagan, who then knows what he needs to emphasize more, where he can change his presentation, and which methods or types of demonstrations are especially effective. All this adds up to better courses for everyone.

Last year the course was offered to 51 students at this same school. To date a total of 127 young hunters have been certified in just three courses



EVEN DURING BREAK TIME, youngsters show their interest by questioning Deputy Sulzer about statements made during lectures.

within a year's time. We are looking forward to certifying other students as safe hunters at Emmaus. For as student feedback makes a better course, it also makes safer hunters before going afield.

Junior Hunters Took 13,850 Deer

Hunters 16 years of age and younger took 13,850 deer during Pennsylvania's 1969-70 seasons, according to a Game Commission study.

The young sportsmen bagged 5492 bucks and 8116 antlerless deer during the gunning seasons. In addition, youthful bowbenders accounted for 74 bucks and 168 antlerless whitetails during the archery deer seasons.

Percentage-wise, youngsters are every bit as successful at harvesting whitetails as their elders. Slightly more than 10 percent of Pennsylvania's resident hunting licenses are sold to youths 16 or younger, and the youths account for more than 10 percent of the deer taken in the Commonwealth.



PGC Photo by Steve Kish

FORTY-ONE YOUTHS interested in hunting took the safety course recently conducted by personnel from the West Side Boy's Club, Hyde Park, in Scranton. Also cooperating were members of the Scranton NRA Rifle and Pistol Club and Tom Wylie, District Game Protector from Lackawanna County.



A Northwestern Waterfowl Hotspot

By Nick Sisley

LOCATED JUST 10 miles south of Erie is State Game Lands 218, a tract of 1032 acres being developed primarily for ducks and geese. Erie County waterfowl hunters have found the teal, mallard, wood duck, and black duck gunning is already good here. Future development work will make it even better.

In 1958, the first impoundment was started on SGL 218. In 1965, Project 70 funds were used to acquire the additional land that brought this tract to its current size.

In 1968, management practices were intensified, and in the fiscal year 1968-69, Project 500 monies were approved for the multi-purpose development that is currently under way.

Four impoundments are completed on this tract. Their sizes are 10, 27, 71, and 160 acres. The largest dam is on Segal Marsh. It is planned to raise the level of the existing dam by three feet. This will back up approximately 400 acres of water that will provide prime waterfowl habitat. Segal Marsh is the headwaters of the East Branch of Le

Boeuf Creek. Except for limited clearing near the breast of the dam, this marsh remains in its natural state.

In addition to the four constructed impoundments, there are two large beaver dams, each about 35 acres in size. One of these will be replaced with a dike and concrete spillway that will increase its size to about 125 acres. Six smaller beaver dams are used by waterfowl.

Forty wood duck nesting boxes have been placed at strategic spots around the area, along with 27 goose nests. For the latter, a 55-gallon barrel is cut into thirds. It makes a nest just right for "mother goose" to snuggle into. Over the 1969-70 winter, 150 additional wood duck nesting boxes were installed. Before the spring nesting season started, 50 wire-straw duck nests were set out by Land Management employees. To date, all nests have been installed on constructed impoundments.

An additional management practice has been the bulldozing of several islands on the constructed impound-

ments. Waterfowl use these islands as nesting sites.

One of the most important management tools for increasing the supply of ducks and geese is the establishment of a refuge. SGL 218 has two of these, one of 50 and the other of 250 acres. These areas may not be hunted. They give ducks and geese a place to land and rest unmolested. Without waterfowl refuge areas, duck and goose shooting in the state could not be improved. If waterfowl can't find seclusion away from hunting pressure, they simply hasten their migration southward.

Important Tool

Another important goose management tool is the captive flock of geese. During the nesting season in the spring of 1970, SGL 218 received 12 pairs of mated, wing-clipped geese. These geese could not fly because of the wing clipping, but they reared young goslings in the spring that were natural flyers. These young birds may make their southern migration in the fall, but by instinct they will return to the place of their birth to raise their own young. Thus, a native population will be started on SGL 218. Keep in mind that geese do not sexually mature until their third year. It takes some time to see the results of the Game Commission's efforts.

The captive geese can walk around freely. Consequently, a small fenced enclosure was constructed on the 250-acre refuge. Fenced enclosures for captive geese are always constructed on refuge areas. This insures they will not be inadvertently shot by an overzealous hunter. It also gives needed seclusion to the young goslings. If overly harassed, they could be forced to leave the confines of their rearing place, in which case the effort to get a native flock started would be lost.

Cultivation on this Game Lands is done both by the Game Commission and by local farmers. The local farmers "share" a percentage of the crop with the Game Commission. The Game



PGC Photo by Bob Parlamen

BOB FASNACHT of Ephrata, president of the Game Commission, grins proudly over his first Canada goose of the season.

Commission annually plants some 25 acres in buckwheat, 50 acres in rye, 20 acres in millet, 30 acres in oats, and 50 acres in wheat.

The sharecroppers farm almost 350 acres. They make a five-year rotation of crops; i.e., two years of corn, one year of oats, two years of hay. Naturally there are acreages of each of these crops every year.

Seven parking lots have been constructed, as well as three and a half miles of service roads, and many acres of land have been cleared. A visitors' center is under construction, as is a paved road to reach it. The visitors' center will include a museum with mounted wildlife specimens and a lecture room where interested parties can learn about the area and the Commission's programs. In the summer of 1969, when construction was far from complete, groups already were making visitations. In August, two bus loads per week were being catered to.

SGL 218 is located in Green Town-

ship in Erie County. Route 8 transverses it. This, along with its close proximity to the large population center of Erie, gives an idea of the easy access to this area. It will undoubtedly be used by large numbers of people through the years.

Other hunting is available on the Game Lands. Area gunners have found the September dove shooting good, and because of strip farming with abundant fencerows and numerous plantings of multiflora rose, this area has a native ring-necked pheasant population. To augment these birds, SGL 218 also receives preseason and inseason ringneck stockings. Also, there is a good rabbit population, and woodcock and shore birds are available in huntable numbers, though usually by the end of October these have left for the South's warmer climate. If you intend to hunt these challenging targets, don't wait until it's too late.

Woodchuck hunting is excellent

during the summer months. As usual, it is best to hunt chucks after the hayfields have been mowed.

Land Manager Jim Hyde reports that blue-winged teal were in abundant numbers when the 1969 duck season started. They remained in the area until the middle of November, which is highly unusual. In past years, the teal migrated through Erie County before the opening of the waterfowl season. Unquestionably, it was the management practices resulting in improved waterfowl habitat that kept these teal in the area for such a long time.

It will be another two years before the current planned work on State Game Lands 218 is completed. Erie County gunners can expect their duck and goose hunting to improve yearly for some time to come. As with all wildlife, available numbers depend primarily on food and cover, habitat improvement and related situations, and these are being worked on.





WHEN ANYTHING IS TIED on top of the car, it should be checked frequently while traveling to make certain it is secure.

Tie It Up or Lash It Down

By Les Rountree

AT LEAST ONCE a year every camper finds himself in the position of having to tie a knot. He may have to bind down the extra gear on his luggage rack, secure a boat to a piling or hoist a grub box up into a tree to keep the raccoons from devouring his bacon. He'll manage to do it somehow. Maybe his ropework will be satisfactory and maybe it won't. The more modern tenting equipment that is being used today doesn't require that you be able to tie a knot, but the occasion still arises when something breaks or modifications are necessary.

Many of us have had some knot instruction in the Boy or Girl Scouts. How much of it do we remember? Very little. I'll bet that usual conglomeration of twists and turns that we call knots would make a knowledgeable knotsman cry. I certainly don't expect

the readers of this column to practice until their fingers are raw so that they can make a perfect line splice or turks-head. This is fancy stuff for the retired nautical types who sit around the boat docks and impress tourists with their skill. But there are four or five very basic and simple knots that all campers should know. Even if you never put the knots to practical use, it's fun to know how to make them and gives you something to do in case you find yourself rained in for a few hours.

The common square or reef knot is the most useful knot that a camper should know. It's sort of two overhand knots tied side by side. It's used for attaching two pieces of rope to each other or the finishing-off knot when binding down a package such as a sleeping bag or tarp-wrapped bundles on top of car or trailer. By look-



RAIN GUTTER-TYPE car carriers should have a bearing surface of at least three inches. Padded ones prevent marring.

ing closely at the illustration you'll see that the square knot, tied correctly, is neat and symmetrical—totally unlike the granny knot that usually winds up imitating the reliable square.

While the square knot is okay for joining two equal diameter lines, it doesn't work so well for odd-sized ropes. The sheet bend is the one to use here and, while it doesn't look too sturdy, it will hold very well with hemp or manila rope. The old fisherman's or blood knot will also work for joining two lines together but it will be a bit bulky if the rope size is large.

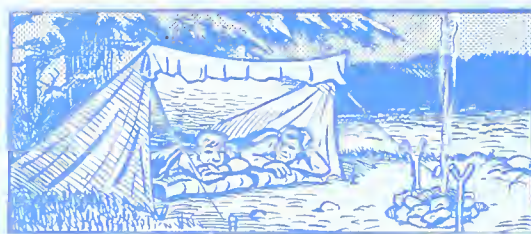
Another widely used knot is the clove hitch. This is the knot that boatmen use for temporarily tying their craft fast to a piling. It is done quickly and if some tension is kept on the line will draw tighter with each pull. It can work loose, particularly if smooth nylon rope is used. A much more secure way to hold any kind of a boat is with a permanently spliced loop that is merely thrown over the piling. If you feel up to it you can learn how to make an eye splice or put one together by buying a ready made rope clamp and making a mechanical one. Very satisfactory . . . just not quite as esthetic.

Speaking of eye splices, my father, a retired cable tool driller, is a master at making these, either with rope or wire cable. The rope job is all done with the hands but the making of an eye with wire line requires metal splicing spikes to hold the individual strands apart. I've never done it with wire but I've watched Dad do it many times and it really is an art. Properly done, the line itself will break before the eye comes apart. Done with rope the eye splice is a beautiful example of ropework. I won't attempt to explain how it's done because it simply can't be done intelligently with words and pictures. The best way to learn is to locate an experienced rope artist and sit at his knee for a few sessions. These guys love to show off their handiwork and if you learn your lessons well you'll be in demand as a demonstrator.

Bowline Is Good

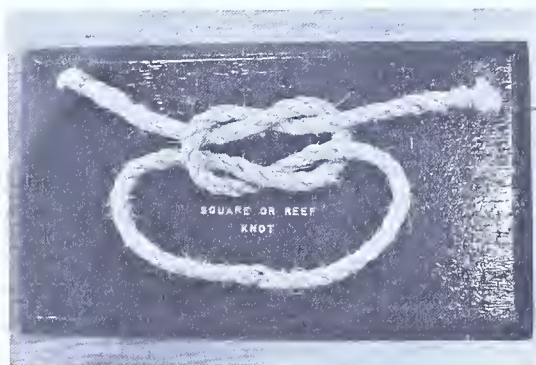
For most purposes the bowline loop will perform well. The illustration does a better job of explaining it than I could in print. The bowline won't slip and works where you must tie a line to any round or square post, tree or pole.

With hemp, manila or other coarse-fibered ropes, always whip finish the ends. If you don't they'll unravel and won't last too long. Nothing is more annoying when tying something down than to have a broom-ended rope that just won't thread itself through some difficult place. Use some sturdy linen or nylon cord for this and make several tight wraps, bringing the end back underneath all the loops. Use a separate piece of cord for a draw-through loop. It isn't necessary to do this with nylon rope. With this material it is

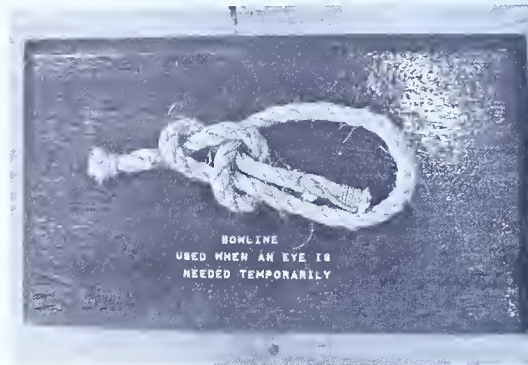


thing last year up in the Allegheny National Forest in Warren County. The porcupines were so plentiful that you chased them away each morning with a broom. Use a thin nylon rope for making one of these hanging store-rooms. A rough-textured rope, if hung

as well. If the camper happens to be hauling a trailer or has a tent stowed in the trunk, he just about has to carry his boat on top of his car. The luggage carriers that come as optional or standard equipment on most cars are not satisfactory for this purpose unless



THIS IS THE SQUARE KNOT, a highly useful, easily tied knot, that every camper should know. It's the one good knot that's used constantly.



THE BOWLINE IS another easily tied knot that comes in handy. It provides a no-slip loop or "eye" for mooring a boat, use as a sling, etc.

on a substantial limb, will bring out the acrobat in many raccoons and they'll sure try to shinny down the rope. The thin slippery nylon makes it almost impossible for them to practice their thievery.

Don't Tie Directly to Roof

When tying anything down on top of a sedan or station wagon, never tie it on directly. Install a luggage or boat rack and tie to that. I have seen some cars going down the road with tremendous loads tied to the door handles or center pillars. This is unsatisfactory and unhandy as well. If your car top carriers don't provide for it, make some sort of plywood or slat arrangement so that there is an airspace between your load and the roof. Aside from protecting the top of the car, you need the airspace to allow things to dry out after a rain. And *it will* rain sometime during your camping trip. I have never known it to fail.

I hope that the editor of PENNSYLVANIA ANGLER will forgive me for talking about boats in GAME NEWS, but a lot of campers do carry boats on top of their cars and tow behind them

they are padded in some way. For that matter, neither are some of the car top carriers that are sold specifically as boat carriers. The two most common shortcomings of these carriers are no padding for the boat or canoe and flimsiness.

The rack should be protected with rubber, plastic or some material that prevents the aluminum or fiber glass boat from being scuffed up. The good ones are padded. Some of the economy models that campers and boat owners cheerfully buy are sure to collapse before a one-week trip is over. Watch the hardware and the fittings, particularly those types which attach to the rain gutters. The bracket that fits over the rain gutter should allow at least three inches of contact. Less than this and too much end play occurs. Any boat weighing over 65 pounds will cause these to rock loose eventually. Some of the suction cup types are okay for hauling boats and camping gear if they have a safety strap that attaches to the rain gutter as well. By themselves, the suction cups hold well when you want to remove them from the car but come off easily when you

least expect them to, in my experience.

When installing any type of carrier make sure it is mounted squarely in the center of your car roof. On some hardtop models the carriers will have to be mounted rather close together because of the sharply slanting roof line. This means that with boats and canoes you'll have to tie down fore and aft as well. In fact, you should do this with any boat at any time. The extra insurance is well worth it. A boat blowing off the top of a car at turnpike speeds is not funny except in the movies. Neither is losing a rack full of camping gear.

To modify a set of boat carriers for carrying camping gear, you might consider mounting some eyebolts in the leading and trailing edges of the crossbars. If the bars are wood this is an easy matter. Simply screw in the wood threaded eyebolts. It's a good idea though, to drill a slightly smaller hole with an electric drill before screwing them in to avoid splitting. With the metal crossbars, the hooks or eyes can be bolted on through drilled holes. About four or five of these on each bar gives you something to "lace" back and forth with. This, coupled with several crosslines, should keep everything in place all day. Stretch cords are handy too for this purpose and several kinds are available. You can also make them yourself. Attach monkey chain links to both ends and packing and unpacking become a quick operation.

My biggest problem with ropes and the binding up of things is that I never seem able to hang on to the ropes that are cut for special purposes. The rope



FIFTY FEET OF $\frac{3}{8}$ " braided manila rope can be invaluable to over-the-road campers. Always coil and tie when not in use . . . it'll last longer.

that is used for winding up the sleeping bag is just the right length for a clothesline so it usually is left behind. The line that tied the tarp on top of the car works nicely for an anchor rope, and so it goes. You'll find that the same things happen to your ropes. But one thing is for sure . . . if you start carrying extra rope in your car there will always be a use for it. I think I have used up 11,000 feet of it during the past three years. One final reminder. Always buy bright-colored rope. I like the yellow nylon braided kind. It's easy to find when you drop it.

Warm Whitetails

The winter coat of the white-tailed deer is so well insulated that the animal can sleep in snow all night without melting it.

Shucks, It's Easy

A mole can dig a tunnel 225 feet long in a single night.



Why I Go . . .

Hunting With a Bow

By Keith C. Schuyler

ONE TIME some years ago, a little stunt was introduced as part of the program at an outdoor writers' meeting. The idea, personally inspired, was to see if anyone could avoid using the personal pronoun "I" while talking about himself for one minute. It brought a lot of laughs, and no one made the grade. The reason for mentioning it here is merely to set the scene for what follows, because the desire is to get across to you some of my personal reasons for involvement with the bow as my favorite hunting arm. The word "I" is usually important only to the person employing it, and there is a great risk in attempting this presentation without overworking the personal pronoun.

Over the many years of my association with the bow and arrow in the

hunting fields, there have been countless reasons to encourage further participation beyond the obvious end result—the kill. Although any game would lose its fascination if the participant never scored, it's been noted that the first scenes recalled while reminiscing often are incidental to the main effort of trying to down the quarry being hunted.

For example, just the other day a unsuccessful groundhog hunt had a nearly frustrating ending when it was discovered that the car keys were locked inside. After considerable walking in the pleasant countryside to borrow a clothes hanger from a lady at a rural home, my son was able to get the car unlocked from the outside through some intricate maneuvering with the wire. His father, the drive

and owner of the vehicle, was an interested observer. Since the car was parked in a rather remote area which would have been difficult to find even if a successful telephone call might have been made, it could have been a much longer trip from the standpoint of time than was intended. Certainly the memory of that hunt will not involve the woodchucks we didn't get.

In a more pleasant vein, there are the two turkeys which also were not shot in the last two spring gobbler seasons. In one instance, a gobbler responded to the first call before my intended stand was reached. He came on the run to within 20 yards. Despite my camouflage, he saw me and was about to take off. A quick draw of the bow confused him, and he made several fast circles of a few feet before disappearing. Again he answered the call, but the next time he showed himself was when he flew to the top of a tall tree well out of bow range. From there he continued to gobble until he was enticed down out of the tree to present an unsuccessful shot at 55 yards. He even answered again after that, but it is probable that his big mouth had brought hunters in from miles around. It was all over.

How many hunters have had the pleasure of observing a gobbler for at least 15 minutes within easy gun range while their hearts tried to bump right out of their chests?

In the spring of '70, an early watch in the same spot was interrupted by the sound of running deer to indicate that someone else was moving into the territory. Once again the call was answered but it took over an hour and a move to a better location before the tom started to come in. This time the mosquitoes were so bad that it was

next to impossible to stand motionless. It is likely that the gobbler caught movement as he approached to within 20 yards behind a screen of brush, talking all the way, because he never showed himself.

Who would swap such experiences

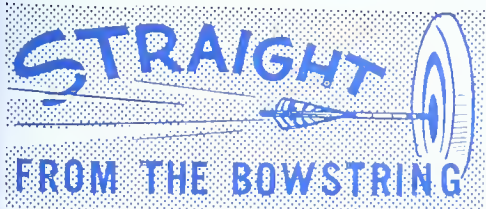


SOMETIMES, WHILE hunting one species of Pennsylvania game, such as deer, you'll see another, such as turkey. The sight alone makes a thrilling fringe benefit for a bowman.

for all the turkey dinners within 100 miles of Gobblers Knob?

Because my deer tag had been filled in one preceding archery season, this hunter was relegated to driving deer for one of his sons. This did not preclude hunting with a camera. By chance, one of the biggest bucks ever raised in Columbia County came soaring out of a windfall. Its rack looked too heavy for even that big deer to carry as it floated through the brush and across the nearest highway—away from the hunter up ahead. This wasn't even the archery season, but it was a bow which had set up the situation that has become an important part of my memories. Unfortunately, not on film.

On one occasion, a red fox came almost to my feet at a deer stand in October before scurrying away with brush between him and a possible chance for a shot. My first and only sight of a marten came at a stand





SINCE PARTS OF THE DEER and grouse seasons usually overlap for archers, they occasionally get an extra reward for their time afield.

when my bow was strung for bigger game. One of the funniest woodland happenings occurred one morning when a chipmunk came tearing by, scurried up a tree and out a limb only to lose its footing, and come thumping down in the leaves. It never lost momentum as it hurried on about its business. There have been countless grouse, wild turkeys, skunks, opossums and the usual run of rabbits that have provided entertainment during the times when deer were reluctant or nonexistent.

Birds, in themselves, provide special entertainment to make a deer stand worthwhile. The friendly chickadee will occasionally sit on the bow or string or land on the hunter's shoulder. Robins frequently flock for their fall flight and surround a deer stand to enliven the atmosphere. Noisy grackles, pileated woodpeckers and their many smaller cousins — nuthatches, grosbeaks, and an assortment of other colorful winged characters — lend their presence in October before heading south.

The deer hunter develops a new appreciation of how human sounds carry long distances up the ridges from the farms or nearby communities. Youngsters, loudly announcing their descent from school buses, provide a check on the time in the afternoon. Airplanes blasting through the atmosphere, trucks groaning their way up distant or nearby hills, power saws snarling their way through pulpwood, and the farmer rattling his milk pails or coaxing his tractor back and forth through some unseen field—each tells a little story.

It is October, and Indian summer weather still permits many outside activities that have their own sounds. Barking dogs, sensing the coming season when their chains will be un-snapped, simply make noise or welcome members of the family who have been away for a minute or a day.

Main Objective

These are sufficient reasons for being out with the bow in October, but they are really only incidental to the main objective, which is frequently to get a shot at a deer. Of nearly equal importance is the opportunity to watch these animals in their habitat. There is always the hope that they will be unaware of the hunter. However, whether tripping daintily toward an objective which might be a bed on the mountainside in the morning or a lush field in which to feed in late afternoon, the white-tailed deer is a fascinating creature to observe. If it has its suspicions aroused, a suddenly alerted deer can provide an interesting show as a study in wildlife.

Since shooting is, or should be, as close a range as possible, it is frequently possible to observe deer for long periods before the decision to shoot. A buck will often take time to rub his recently denuded antlers on the nearest bush or tree trunk. At times, he will attack a bush simply to get the feel of his head adornment. It can be a savage display. A worried doe with errant fawns provides a

special show of its own as her youngsters try her patience and slow her progress. An unalerted deer will many times take time out to scratch with a hind hoof or to clean itself with its rasp of a tongue.

Entertaining Actions

Once alerted, the show that a suspicious deer will put on is worth many times more than the unlikely shot. Stomping of feet to encourage you to move, sidling downwind to better get your scent, making false attempts to feed with the sudden raising of the head to catch you in an unguarded moment—each of these is entertainment and tells you more about the deer.

Watching a deer thread its way through the trees and among the bushes when you are on the receiving end of a drive can be a pulse-pounding experience at any time. The anticipation, the frequent disappointment, the personal caution, each of these is a part of the total picture. And frequently it is a moving picture that is enacted over a period of several long moments or even many minutes.

On a stalk, there is the excruciating effort to remain unseen and as quiet as possible while keeping the quarry in view. You know at such times that you are bucking the odds and that you are pitting your woods ability against a creature that has been able to thrive in the face of civilized encroachment.

There was the time, in Wayne County, when movement up ahead signaled the usual need for extreme caution and a sudden freeze. But instead of the expected deer, a big sow bear with two chubby cubs rolled across the shallow swamp. Not one of them was aware of anything but the need to get somewhere else, since they apparently had been disturbed by another archer.

On one deer stand where second growth covers a former mountainside farm, there is a good supply of small game. Deer usually move through be-

tween five minutes before and five minutes after the hour of eight o'clock. Consequently, it is necessary to be on site and well hidden long before this time. A pair of grouse frequently wake up the morning with their clucking and leaf scattering before they thunder away to some favorite feeding spot. One skunk became a regular visitor. And a possibly orphaned button buck dropped by some mornings to check beneath an old apple tree for the fruit that fell occasionally.

One morning, a small opossum crawled noisily down a greenbrier to nose around in its usual stupid fashion. It made such a racket in the leaves that it was certain to alert anything approaching the area. At least nothing showed.

Rabbits are common acquaintances at stands near farming country, but one of the most aggravating performances was put on by a snowshoe hare late one afternoon. Runways converged near an abandoned lumberman's shack. After sweating it out for an hour or so in the quiet of the deer woods, there was a sudden loud gnawing at the building which resonated



AN UNALERTED DEER frequently gives the silent archer a chance to see it carrying out its day-to-day activities in a normal manner.

like a drum. A quick glance showed a snowshoe sharpening its teeth on the lower boards of the shack. You would expect a wave of the hand to settle this territory dispute, but the snowshoe refused to budge. Finally, a thrown stick sent it scurrying under the shack . . . where it found another



A BOWMAN WHO TAKES his stand near water sometimes is treated to an unexpected aquatic show of ducks or geese which are unaware of his presence.

board to chew loudly in safety. Of course, nothing else approached.

One of the funniest experiences while bow hunting involved a red fox and me in a mutual loss of dignity. The red fellow suddenly appeared, trotting down a log road about 50 yards ahead. Since he was not alarmed, there was no need to attempt a long shot. Anyway, the red decided to take an abrupt left turn down to one of those small woodland meadows which border little brooks. A stealthy approach with high hopes revealed nothing. Yet it seemed that the fox should have been in sight.

A careful second look revealed only the white-tipped brush of the fox showing above some weeds where he was digging for mice. The distance was now only about 35 yards. A careful aim and a good release sent the shaft on a path that looked good! However, it thunked into the sod at the rear of the

fox. The tail suddenly went erect and followed a now thoroughly alerted red fox that went literally *high-tailing* it up across the meadow to disappear on the opposite side of the log road. The tail never did come down to trail behind in approved fox fashion. Only the white tip was at right angles on the erect brush, even as the fox hit the tall timber.

The only guess that seemed reasonable was that the edge of the broadhead had nicked the fox just under the tail, since there was no blood on the blade.

Although squirrels are now legal quarry during much of the bow hunting season, few archers like to risk alarming a possibly approaching deer for a shot at a squirrel. Besides, it is rough on broadheads. The natural result is a good opportunity to observe the gray fellows when they think they have the woods to themselves. Sometimes they do discover the hunter and awaken the entire area with a scolding that is likely to alert everything for hundreds of yards around. The temptation to shoot can become overwhelming (when legal).

On one such occasion, a gray squirrel made the mistake of crawling inside a small stump which obviously had no other way out except the port of entry. A short wait paid off as the gray started out, became suspicious, and stopped with only half of him showing. The shot was attempted anyway. Result, one ruined broadhead and one better-educated gray squirrel.

If a hunting stand is taken near water, a new set of experiences sometimes is available. Watching a mink investigate every nook and cranny of the streamside in search of crayfish or frogs; seeing a family of raccoons start out on their night's excursion; watching ducks and muskrats and beavers go about their chores, these are more of the experiences that wrap you up in your environment until you sometimes forget the main purpose of your watch. Until, of course, the crack of a twig or a change in the shadows starts the

adrenalin flowing and you become immediately attuned to the situation.

All of these have been personal experiences that have certainly enriched my life and keep calling me back. There have been sufficient successes so that, according to the game being played, my side won. Nevertheless, the extra events that are an adjunct to any hunt with the bow and arrow, whether it be for red squirrels or white-tailed deer, are certain to give one a high score in pleasure. This is not to discount the importance of the kill, whether it be vermin or venison. But, just being in the out-of-doors is sufficient reason unto itself.

If scoring on game was the only objective, most of us could not rate

ourselves very high. But if we drink in all the wonderful sights and sounds of autumn while hunting with the bow, there can be no failures.

These are some of the reasons that I hunt with the bow and arrow. The primary one will continue to be the desire to find what I am seeking and to take it with an arrow. To admit any less intent would make me appear foolish. This is the main reason that I hunt with the bow.

Nevertheless, the entertainment that autumn provides in between those awesome moments when the hunter becomes the main actor in the drama of harvest, lifts the total sport far above the fields, the woods patches, and the mountains of Pennsylvania.

Book Review . . .

Archery, From Golds to Big Game

Long familiar to GAME NEWS readers for his column, "Straight From the Bowstring," in this new book Keith Schuyler reaches out to readers on a nationwide basis, assembling in highly readable form the distillation of over three decades of experience, work and research in the field of archery. His goal was simple—to present the total archery picture as it is today; and impossible—because, as he states in his foreword, it would take many books to approach this goal. Nevertheless, he here offers more information of practical use to bow hunters and target archers than has ever before been assembled between two covers. Though some of the material is adapted from his column, much is original here. It covers archery's beginnings and general history from vague, prehistorical times to today. All items of equipment are discussed at length—target and hunting bows, bowstrings, arrows, the materials from which they're made, points, sights, stabilizers, arrow rests, brush deflectors, quivers, targets, etc.—as well as care of tackle. The mechanics of the bow and arrow—how they work—are covered. Hunting with the bow is gone into in depth, both for big and small game, and target archery—the "golds" of the title—receives a good percentage of the total copy. There is also data on the various associations, rounds, records . . . even the final standings of the 25th World Championship Tournament held at Valley Forge, Pa., in late 1969. A tremendous job, this book will enhance Schuyler's reputation as one of the country's leading authorities on archery. (*Archery, From Golds to Big Game*, by Keith C. Schuyler, A. S. Barnes & Co., Box 421, Cranbury, N. J. 08512, 1970. 569 pp., profusely illustrated. \$12.)



ROY TREXLER, a veteran handgunner, squeezes off a shot with the Hi-Standard Supermatic Trophy Military, a precision 22 L.R. autoloader.

A FRIEND stopped by to see me a short time ago, and we got to talking guns—which isn't an unusual thing around the house where I live. Anyway, the conversation got around to handguns and one in particular—the Ruger Single Six Convertible—because this model is a particular favorite of this fellow.

For those not familiar with this one, I might say it's a bit unusual in that it comes with two cylinders. One is chambered for the conventional 22 Long Rifle ammo and the other for the 22 Winchester Rimfire Magnum, a higher velocity load of considerably more power. My friend Steve was highly effusive in his praise for this combination, but I was a little hesitant about agreeing that a given handgun could handle both loads with the same degree of accuracy. At any rate, after Steve had left I kept thinking about this gun and decided to order one.

A few days later, I received it, and I certainly couldn't disagree with Steve's enthusiasm as far as looks were concerned. It took a dozen shots for me to get the sights adjusted, but from then on, I had little trouble. I shot a box or two of ammo on my

22-Caliber Handguns

By Don Lewis

Photos by Helen Lewis

range and had no problems. The times I failed to score were due to poor shooting on my part. I particularly like the weight and heft of the revolver.

Being a scope addict, I just had to mount something on it. I used a Bushnell 2.5X with a Bushnell mount setup. This improved the groups. At 40 yards it wasn't much of a problem to stay under 1½ inches from the bench. This might not sound impressive, but it's better than average. I'm hoping to use it on chucks under 50 yards with regular ammo and to perhaps 75 with the Magnum stuff in the spare cylinder.

The handgun has never won a commanding place in the Pennsylvania hunter's heart for some reason. It could be that handguns have remained nearly the same for over a half century and there isn't much ado made over them nowadays. The fact that they haven't changed much indicates to me that the manufacturers feel there isn't much they can do, or else the early designers hit the nail on the head right from the start.

For as small as the handgun is, it's really a complex unit. I am always a little apprehensive when disassembling one, especially a pistol. I always seem to have too many parts for the space, and it never fails that there is at least one part that can be installed backwards. I've always managed to

get all the pieces back in place, but I still get the shivers when I think about some of the boxes of springs, pins, and parts that someone else tore apart but couldn't get together. It sure tested one's patience.

Really, there isn't much, nomenclature-wise, that a designer can do to make a major change. There are just two basic types of handgun, other than a single shot. The revolver utilizes a revolving cylinder that is manually operated when cocking, and the pistol is clip fed with a recoil-operated sliding bolt. I realize that the designers of sewing machines, for instance, can think of endless operations for their product to do, but the handgun designer is limited. A gun just shoots. I do believe some startling changes may appear in the future, but I feel these will have little or nothing to do with the operational functions of the handgun. Simply because today's handgun bears a strong resemblance to yesteryear's product is no reason to panic.

For all the handgun has to offer in sheer shooting enjoyment, a lot of the gun fraternity still wants no part of one. I believe this is largely due to the fact that the average hunter or shooter never learned to use one properly. It's true that most shooters can't do too well with any type of handgun. During my Army days, the first three shots I fired from the Colt 45-caliber auto-loader missed the entire target. A handlebar-mustached major walked by, slapping his thigh with a riding crop. It was unfortunate for me that I happened to be doing such miserable shooting when he appeared. He eyed me disdainfully for a full 30 seconds while I stood helpless, looking at his

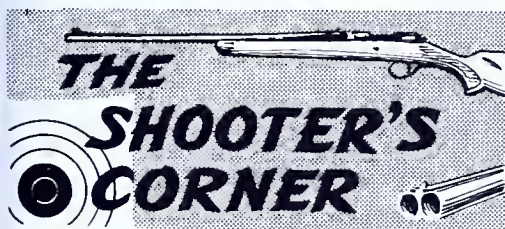


C. J. CLAWSON of Indiana, Pa., displays a favorite Smith & Wesson revolver, a make long recognized as one of the world's top double action handguns.

chest full of shooting medals. Finally, with a voice full of sarcasm, he asked if this was the first time I had ever fired any weapon.

I considered telling him the number of squirrel, grouse, rabbits and woodchucks that I had shot, but I couldn't tie that in with a pistol, so all I did was mumble some weak excuse. He gently removed the pistol from my hand, and handed it to an enlisted man to reload. Doing me the great honor of allowing me to hold his riding crop, he proceeded to put every shot in the dead center of the black in nothing flat. He wore a thin smile as his aides complimented him, and he looked at me as if he wanted me to kiss his boots, but I was humiliated and weaker than a termite that had just spent a month in a marble quarry.

He lectured on stuff I never had heard about and was about to put me to the test to see if I had become any more knowledgeable in the last several minutes when the whole affair was called off for chow. It was a lucky



break for me, since it took a lowly corporal with a little compassion another two clips to get me on the target. The major was undoubtedly a terrific handgunner, but he was blinded by his own light and probably never taught too many soldiers how to handle the big Colt 45.

A lot of hunters I know turn up their noses when the handgun is mentioned as a hunting outfit. Let's leave the 22 handgun for a moment and take a look at the ballistics of several larger calibers. I've often heard that a 357 Magnum, for instance, will outdo a 30-30 or even the powerful 270. This is not the case, but the 357 Magnum along with the 41 and 44 Magnums have sufficient punch to stop a deer at reasonable range with proper bullet placement. The handgunner knows his revolver has a limited range and uses his stalking skills to get in close.

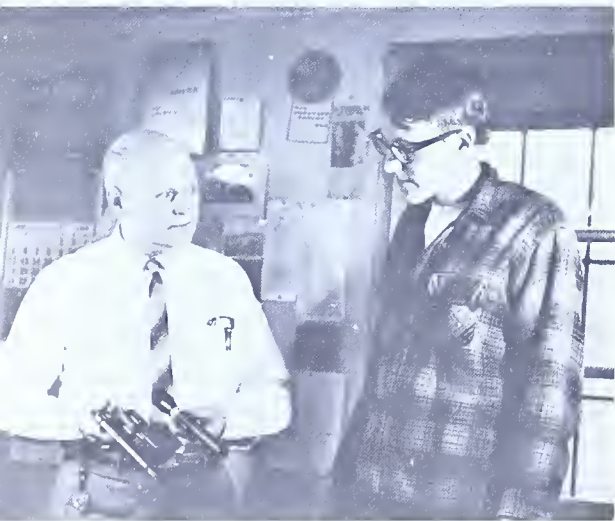
According to the manufacturer's listed ballistics, from an 8 $\frac{1}{2}$ -inch barrel the 158-grain 357 slug leaves the muzzle hitting over 1500 fps, with 850 foot pounds of energy. At 50 yards, it's ziping along at 1375 fps and retaining over 650 pounds of kinetic energy. At 100 yards, the velocity is still 1200 fps, offering 500 foot pounds of punch. The big 44 Magnum offers the 240-grain slug with nearly the same veloc-

ity readings but a much higher energy output, running from 1125 fp at the muzzle to nearly 700 fp at 100 yards. These velocities, which are very high for handguns, give rather flat trajectories over woods ranges. Yes, the proper handgun can be used successfully for squirrels, chucks, or deer if the shooter does his part.

Hard to Shoot

When all the pros and cons about the handgun are sifted and raked over, it's the inability to shoot one successfully that keeps it out of the hands of most hunters. It's a plain old fact that the handgun is difficult to shoot accurately. Yet, scope one and shoot it from a benchrest, and the results soften the heart of the strongest critic. From the bench, I recently put eight shots into an inch square at 40 yards with a scoped 357 Magnum. Helen, who seldom shoots a handgun, placed six shots from the new Ruger with the 2.5X Bushnell into 1 $\frac{1}{4}$ inches at 40 yards from the bench. These groups prove that the handgun has accuracy. They should also point out to the new handgunner who finds it difficult to hit a tin can at 25 yards that the trouble is not with the revolver. I've been told numerous times that a handgun is not accurate. The assumption was made because the shooter hadn't hit anything. But it's usually his lack of ability, not the gun's, that's at fault.

An old handgunner told me he could spot a novice just by watching the knuckles turn white. He claimed when the knuckles turn white, the shooter is in trouble. Most people grip any handgun as if it were going to take off into the wild blue yonder. Maybe it's because the handgun is usually held with one hand, and this could cause the shooter to hang on for dear life. A simple test will show that a strangling grip will cause the hand to shake from a nervous reaction. Really, there is no need for a choking grip. Hold the handgun snug and firm in the shooting hand. Hold the shooting arm extended full length and keep



THE ADVISABILITY OF mounting a low-power scope on a handgun is discussed by C. J. Clawson and Mike Sheppard.

the body rigid but not frozen. A scoped revolver will prove all this to you in a matter of seconds.

If this advice is followed and practiced, the insecure feeling will leave. From that day on, the handgun will take on a different meaning. There will be few outings into the woods without the handgun. I carry mine on most chuck hunts. The trout fisherman in snake country could make good use of one, especially with "bird shot" loads in it. In other words, instead of having no desire for the handgun, you'll be looking for excuses to carry it.

The rifle and shotgun field has a wide selection to choose from. It may come as somewhat of a surprise, but the handgun field isn't much smaller. There's quite an array, from the simple single shot to the precisioned target pistol. Although the single shot isn't too popular, Savage has the 101 for the 22 Short, Long, and Long Rifle for under \$25, and the Contender made by Thompson Center in calibers from the 22 Short to the Magnums goes well over \$100.

Single-Action Lineup

In the single-action lineup, the Herter Western with 5-inch barrel and adjustable rear sight at around the \$20 mark, and Ruger's Bearcat in the \$40 bracket are two nice outfits well within the reach of the bargain hunter. The Colt Frontier Scout offers several barrel lengths and finishes in the \$85-\$95 range, while Ruger offers the Single Six with fixed sights and the Single Six Convertible with two cylinders and adjustable rear sight at some \$70 to \$80.

The double action covers the 22 caliber field more extensively than the other models. Harrington & Richardson offers numerous models, all moderately priced. High Standard has a 9½-inch barrel on their Longhorn Model, with the Double Nine and the Sentinel for those handgunners who prefer the shorter barrels. These are in the \$65-\$75 bracket. I've used a

Sentinel for years, and it shows plenty of wear but still can shoot better than I can hold. Iver Johnson's Viking always catches my eye. I guess I've always had a warm spot for Iver Johnson products. Most are priced at \$40-\$50. It would be pointless to write about revolvers and not mention the famous Colt and Smith & Wesson guns. In the 22-caliber line, they offer numerous double-action models. In the S&W, I'll stick with the K-22 Masterpiece, which is priced at about \$100, and among the Colts I like the Diamondback at a slightly higher price.

Plenty of Pistols

Getting into the pistol line reveals there are plenty of makes and models for any type of shooting. Again, it's going to be a matter of choice among the Browning, the Ruger, Smith & Wesson's 41 or 46 Models, one of High Standard's products, or the famous Colt Woodsman, which is made in several variations. Prices range up



A PADDED REST ON his shooting bench makes a steady platform for Lewis to test his Bushnell Phantom-scoped Ruger single action revolver.



LONG EYE RELIEF of 1.3X Phantom scope permits Ed French to see full field from normal offhand position such as might be used in field.

to about \$135 for the precision-made target models with heavy barrels, adjustable sights and excellent triggers, while plinking models (autoloading pistols are not legal for hunting in Pennsylvania) are available at some \$40-\$90.

Price Range for Everyone

As I see it, there's no good reason why every shooter, and the hunter especially, shouldn't own a handgun of his choice. I'm certain that in the 22-caliber line, there is a price range to suit nearly every person. The 22 is not too expensive to shoot, and I can honestly tell you that the minute I sit down at the bench to test a handgun, I get onlookers. It isn't too long until the onlookers decide they can do better, and before I realize what's going on, I'm out about three boxes of ammo.

But that's the fun of it. Handgunning in the 22 line can be enjoyed by every member of the family. Try it and I'll guarantee that it won't be too long until you're in the same boat with me—loadin' and unloadin' while the rest of the family shoots. . . .

Looking Backward . . .

“. . . The Allegheny [prob. Laurel Hill and Chestnut Ridge] as well as its Surrounding Mountains are ruined & kept poore by the raskally practice of seting fire to the same every 2 or 3 years; the persons that do it ought to be confined in the mountains within the walls of a penitentiary built of the Materials they produce and fed on the beef of Rattle snakes & bears foot soup until the Great Masterly forests should assume their natural & official Magnificence again: They [sic] destruction on this Vast Extensive Aleghany forest done by fire, is not to be described with a pen. . . .” [Dated Uniontown, June 23, 1816. Uria Brown, schoolteacher, surveyor and conveyancer, made a trip from Baltimore to the West in 1816 to settle some land claims. The above is from his journal during that experience.]

“Journal of Uria Brown,” edited by John W. Harpster in “Pen Pictures of Early Western Pennsylvania,” p. 262, Pittsburgh, University of Pittsburgh Press, 1938, xv, 337 pages.

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Pennsylvania Seasons and Bag Limits 1970-71

The Pennsylvania Game Commission, in Harrisburg on June 2, 1970, established the following seasons and bag limits for resident game and furbearers for the 1970-1971 hunting license year which begins September 1.

Open season includes first and last dates listed, Sundays excepted, for game. The opening hour for small game, migratory game birds and other wild birds or animals on October 31 will be 9:00 a.m., EST. Shooting hours for other days and seasons will be from one-half hour before sunrise until sunset, except for raccoons which may be hunted any hour and turkey gobblers (spring season) from one-half hour before sunrise until 10:00 a.m. DST. Information on migratory bird seasons, limits and shooting hours appears on page 43 of this issue.

SMALL GAME

Daily Limit	Season Limit		DATES OF OPEN SEASONS	
			First Day	Last Day
6	30	Squirrels, Gray, Black and Fox (combined)	Oct. 17	Nov. 28 AND
2	10	Ruffed Grouse (not more than 10 in combined seasons)	Dec. 26	Jan. 16, 1971
1	1	Wild Turkey—Counties, and parts of, listed below°	Oct. 17	Nov. 28 AND
		—Counties, and parts of, not listed below	Dec. 26	Jan. 16, 1971
4	20	—Spring Gobbler Season (bearded birds only)	Oct. 31	Nov. 21
		Rabbits, Cottontail (not more than 20 in combined seasons)	Oct. 31	Nov. 14
2	8	Ring-necked Pheasants, males only	May 8	May 15, 1971
4	20	Bobwhite Quail	Oct. 31	Nov. 28 AND
2	6	Hares (Snowshoe Rabbits) or Varying Hares	Dec. 26	Jan. 16, 1971
Unlimited		Raccoons (hunting or trapping)	Oct. 31	Nov. 28
Unlimited		Woodchucks (Groundhogs)	Oct. 31	Nov. 28
Unlimited		Grackles	Dec. 26	Jan. 2, 1971
Unlimited		Squirrels, Red	No close season	No close season
			No close season	All months except
			Oct. 1-16, incl.	

BIG GAME

1	1	Deer, Archery Season, any deer—Statewide	Sep. 26	Oct. 30 AND
		Closed in counties, and parts of, listed below°	Dec. 26	Jan. 16, 1971
		Deer, Antlered, with 2 or more points to an antler or a spike 3 or more inches long	Nov. 30	Dec. 12
		Deer, Antlered and Antlerless, with required antlerless license, buckshot only in Special Regulations Area listed below°°	Nov. 30	Dec. 12
		Deer, Antlerless—Statewide	Dec. 14 & 15 ONLY	
		—Counties, and parts of, listed below°°°	Dec. 14	Dec. 19
		—Bad Weather or Inadequate Harvest Extension—In case of bad weather or inadequate harvest Dec. 14 & 15 in counties designated	Dec. 18 and/or Dec. 19	

FURBEARERS

Unlimited		Skunks and Opossums	No close season	
Unlimited		Minks	Nov. 21	Jan. 10, 1971
Unlimited		Muskrats (traps only)	Nov. 21	Jan. 10, 1971
			AND	
6	6	Beavers (traps only)—Counties of Susquehanna and Wayne	Feb. 6	Mar. 7, 1971
3	3	Beavers (traps only)—Remainder of State	Feb. 6	Mar. 7, 1971

NO OPEN SEASON—Hen Pheasants, Bears, Elk, Otters, Hungarian Partridges, Sharp-tailed Grouse, Bobcat or Wildcat.

NO CLOSE SEASON—Chukar Partridges.

***For special regulations concerning deer, turkeys and beaver, consult the 1970-71 Hunting and Trapping Digest.**

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NOVEMBER, 1970

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IN THIS ISSUE

FEATURES

	Page
Happiness Is a Plucked Turkey	2
By Terry L. McCormick	
Pennsylvania's Dynamic Duo	7
By Nick Sisley	
Bear . . . A Big One!	11
By Burnell Rhodes	
Blindman's Grouse	15
By S. R. Slaymaker, II	
Woodcock!	21
By L. James Bashline	
The Eastern White Pine	25
By Ken Calnon	
My Hard-Won Trophy	26
By Charlie Gross	
Pennsylvania's Five-Year Grouse Hunting Survey	45
By Steve Liscinsky	

NEWS

Field Notes	34
Conservation News	39
Hunter Safety Education	40
By John C. Behel	

COLUMNS

Is Winter Camping for You? (Camping)	48
By Les Rountree	
Bow Hunter (Archery)	51
By Keith C. Schuyler	
The Unexpected (Guns)	51
By Den Lewis	

COVER PAINTING BY NED SMITH

I don't know any Pennsylvania gunner who doesn't like to hunt grouse. Most of them will tell you they go for pheasants or rabbits or squirrels or whatever, but they rarely get excited about these species, at least in conversation. However, when grouse are mentioned, eyes light up, voices quicken, the air seems touched with electricity! The Brown Bombshell creates a reaction in everyone. And why not? Here is a gamebird to test the skill of the most experienced hunter—his woodsman's ship, his senses, his reaction time, his smoothbore ability. Sometimes the hunter wins, but more often he loses . . . and that's what makes the challenge that draws him back to those shadowy coverts year after year. Don't miss any chance you have for grouse gunnin' this season.

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YOU'LL RING
A BELL WITH
OUR HUNTING
FRIENDS WHEN
YOU GIVE

AME
NEWS

Say...

*Merry
Christmas*

with

GAME N

Use

This

7.

Get to Know Landowners

ONE OF THE often-overlooked reasons for Pennsylvania's position as a top-notch hunting state is the history of harmonious hunter-landowner relations in the Commonwealth. Over the years the Game Commission has fostered innovative programs to promote improved relationships, but the commission encourages outdoorsmen to take steps on their own to build bridges of understanding and cooperation. One of the basics is for hunters and landowners to know each other well. Hunter-landowner contacts should be maintained throughout the year, not just during the hunting seasons. This can even lead to social as well as sporting relationships, sharing of game and possibly chores, etc.

A hunter who waits until the opening day of the season can hardly expect to receive permission from a landowner to share his property that day. Would that hunter, if he were a suburban dweller, readily turn over his backyard to a carload of strangers for a picnic at a moment's notice? The sportsman always asks for and receives advance permission before hunting, and knows where property lines are located. He knows that a hunting license does not entitle anyone to trespass on private property. He never blocks a driveway or lane with a vehicle, shoots near buildings, livestock or persons, tramps down farm crops, leaves gates open, breaks down fences, litters, etc. When he shows respect and consideration for person and property, he is often invited to return to hunt again.

The irresponsible hunter, on the other hand, just barges onto a stranger's land and may even ignore common courtesies usually extended to a passerby on the highway. It is the conduct of the thoughtless hunter that leads to the posting of "No Trespassing" signs and reluctance on the part of the property owner to extend the privilege to hunt to reputable sportsmen.

Over four million acres of privately owned land are open to public hunting in Pennsylvania through cooperative Game Commission programs. The programs are cooperative because both private landowners and hunters benefit from hunting. Wildlife, in proper numbers, can be an asset to property owners, but an oversupply of game animals and birds can be harmful to farm crops. The harvesting of surplus game not only supplies recreation and sport for hunters, but also reduces agricultural depredations.

Since farmers stand to gain through hunting (and many hunt themselves), they generally welcome sportsmen. It is the irresponsible hunter who brings nothing but trouble and grief to landowners and other outdoorsmen. Hunters who know landowners feel compelled to act responsibly. The result is clear gain for all concerned.—*Ted Godshall, Assoc. Ed.*



Happiness Is a Plucked Turkey

By Terry L. McCormick

EVERY HUNTER subconsciously wants to experience a hunting incident which when retold, even though true, will most likely be considered a tall tale by the skeptical listener. On the opening day of the 1968 fall turkey season Frank Masur, a fellow teacher, and I became a part of just such an event.

This unlikely happening began when we spotted large patches of torn-up forest floor while still-hunting during the archery deer season. Although neither of us had ever hunted turkeys, the scratch marks we were studying were unmistakable. They were scattered in great numbers across the mountain we were located on, indicating a heavy concentration of the coveted game birds. Our hunting fever, which had cooled to warm embers during a long and unsuccessful archery season, suddenly came to life at the sight of such promising sign. For several days afterwards we observed various size flocks feeding in the same general area.

Ripe for a fresh challenge, Frank and I set out to gather information which would aid us in deciding our plan of attack for opening day. We paid particular attention to the reports collected from local farmers describing turkey habits in the region. By combining these valuable clues with the firsthand knowledge gained in the field during archery season, we were able to chart our best course of action.

The sector of woods we were considering is known locally as "Lillibridge." It lies about three miles outside of the small town of Port Allegheny in McKean County. Roughly triangular, it is approximately one mile long from apex to base, the latter being a dead-end road cutting into the mountain at a right angle. The interior of this triangle is densely

wooded with seed-bearing trees, providing ample food and shelter for the resident turkey population. In addition, it is laced with gullies and hollows which create natural runways to the surrounding fields.

Frank and I were well aware that most of the turkey sightings were made in the vicinity of the base; however, the mountain presented an extremely steep face to any hunter entering there. By far the easiest access to the mountaintop was near the apex. At this point the relatively flat ridge could be reached by car, saving the hunter considerable energy.

Frank and I correctly assumed most first day hunters would choose the easy way into the woods. We knew for certain there would be heavy hunting pressure, since the turkeys had exposed themselves to any and all interested persons. Out of this mass of information and educated assumptions there emerged the outline of what seemed to be the most workable plan for bagging our limit.

Point of Entry

We decided on the base of the triangle as our point of entry. After climbing the steep face of Lillibridge Mountain, we planned to position ourselves at the very top for the first few hours. If no action developed we would migrate toward the apex, making sure to thoroughly search every point and hollow that might conceal a portion of a scattered flock. The two of us concurred with this method for three main reasons: 1. the apparent high concentration of turkeys in this area; 2. a large number of hunters who had entered at the apex would serve to "drive" the birds our way as they hunted toward the base; 3. the steepness of the base area would discourage the majority of hunters, thus allowing

us more room to maneuver.

The evening before opening day we checked the television for word on tomorrow's weather. We then laid out the proper clothes for what was forecast as a cold, windy day, mixed with occasional snow. With a final rundown of our plans and a few joking comments on our hunting prowess, we retired to our respective homes for a restless night's sleep.

The new day dawned exactly as predicted weatherwise. Frank and I polished off a stick-to-your-ribs breakfast of bacon, toast, and eggs, then piled our gear into the Jeep for the three-mile trip to Lillibridge.

As we drove out the dirt road, we eagerly scanned the mountain for a glimpse of our quarry. Nothing moved, save the treetops silhouetted against gray clouds and the flashing whiteness of snowflakes whipped by a raw October wind. We parked at the dead-

TWO TURKEYS FLEW over a hollow on our right, banked into a U-turn and, incredibly, landed in a tree directly below us. We froze in our tracks.



end and had a hurried cup of hot coffee before picking up our guns and plodding across the frozen field that separated us from the mountainside. The mountain itself had never looked as steep as it now felt. Our steady progress uphill was interrupted by frequent pauses to catch our breath. We could have climbed at a faster pace, but we realized that would mean long hours chilling in our own sweat once we took up positions on top.

World Wars

During a pause some 50 yards from the top, I abruptly noticed how quiet the mountain was. It was several minutes past the opening hour and not a shot had been fired. No sooner had I whispered this observation to Frank when World War I broke out on our left, followed immediately by World War II on the right. Reacting instantly, we crouched, keeping our guns ready while our eyes searched the forest for signs of movement. A crashing noise to our left focused my attention on a large beech tree from whose heights a shower of debris was falling. My gaze remained glued to the top as I crept to within 20 yards of the tree.

Suddenly, a huge dark bird lifted ponderously from a concealed upper limb. It was a turkey! As it strained for altitude, I felt my reflexes take control. My finger shoved off the safety as my 20-gauge pump leaped to my shoulder, and a load of No. 6 Magnums slammed into the turkey only a few feet from its hastily vacated perch. Pumping in a fresh round, I squeezed off a second shot as the bird tried to regain its balance. It fell in a slow motion somersault to the forest floor.

I stood for a moment staring at my downed trophy, unable to believe my luck. Frank rushed over to congratulate me, wearing a look of disbelief. It was hard to realize we'd been so lucky so quickly.

And it wasn't long before the action resumed. A hunter walking across the



SUDDENLY, A HUGE DARK BIRD lifted ponderously from a concealed upper limb. It was a turkey, straining for altitude!

ridge above us kicked out another turkey that glided slowly past some 30 yards to our left and low to the ground. It was a perfect shotgun target. Frank leveled his gun and fired and then watched wistfully as it sailed out of sight unharmed. He was, unfortunately, carrying his 243 lever action rifle instead.

I offered him the use of my shotgun. I felt sure that any turkeys he would get a crack at would be on the wing. Frank declined, saying he preferred to use his own gun. I confess, I didn't share his confidence in the rifle for this kind of hunting. I shouldered my trophy, which I had wrapped in my blaze orange vest as a safety precaution, and we headed uphill again.

We had taken only a few steps when the sight of two turkeys flying over the trees in front of us froze us in our tracks. They flew over a hollow on our right, where some hunters fired on them. They banked into a U-turn and, incredibly, landed in a tree directly behind us and somewhat down-

hill. This put them level with us at a range of about 70 yards.

Frank calmly knelt down and, resting his rifle on a stump, took aim on the exposed turkey. Nervously I awaited the shot that could create the perfect ending to our plans. He squeezed it off. The mountain reverberated with the blast, but the turkey never moved. Frank levered a second shell into the chamber and again took careful aim. For the second time the mountain echoed and still the turkey never budged. He fired for the third and fourth times with similar results. After pocketing his spent clip, I numbly watched as he inserted a new one. The 243 barked a fifth time and as before the results were just a lot of noise. Frank finally stood up and turned to me. The look he wore would have convulsed a snake. I handed him my shotgun, and in boldness born of desperation, he clambered down the slope to face his tormentor. The target had unshakable faith in Frank's inability for it allowed him to close within pointblank range.



MY FINGER SHOVED off the safety and a load of No. 6 Magnums slammed into the turkey only a few feet from its hastily vacated perch.

For the sixth and final time a roaring gun voiced Frank's mounting frustration, but this time a turkey plummeted earthward. After a whoop of pure joy from Frank and an audible sigh of relief from me, I returned to retrieve my turkey which had dropped to the ground during my comrade's incomparable display of marksmanship. Mouth-watering thoughts of a wild turkey dinner were interrupted by Frank's shout, "What should I do about the other turkey?"

"What other turkey?" I replied, fearing the worst.

His answer came drifting up the mountain loud and clear. "The other turkey that flew in with mine. It's still sitting in the tree." He pointed off through the woods.

Needless to say, nothing could impress me by now. Feeling rather inadequate to cope with this new development, I looked behind me and spotted an elderly hunter shuffling cautiously my way. I motioned to him and the two of us walked to where Frank squatted, surveying his trophy. He took time out to point to the remaining bird swaying gently on its perch high in the tree. The old man took his time in aiming before touching off his 12-gauge pump. The turkey jerked with the impact, then set its wings and glided into the ground just out of sight over a small knoll. The oldster hurried away to recover his prize, our words of praise still ringing in his ear.

A Thousand Ovations

Some time later, after describing our good luck to several friends who had scoffed at our plans only a few days previously, we settled down to the task of plucking our turkeys. We finished with a hearty appetite—it was quite awhile since breakfast — and drove to a lunch room for something to eat. As we were waiting, we overheard several hunters talking. They had given up because of the cold weather and lack of action. We listened quietly as they complained of the scarcity of turkeys in these modern times. Finally, as we got up to leave, they asked us the inevitable question. We nonchalantly informed them of our success. Their silence was worth a thousand standing ovations. Frank and I had proved to our own satisfaction that, although unusual hunting incidents can happen to just about anyone, unusually successful incidents happen most often to those who make the effort to do some pre-season scouting and planning.

Big Birds

Condors weigh up to 20 pounds and have wingspreads up to nine feet when in flight.

*In Some Areas, You Can Hunt Both Grouse and
Ring-Necked Pheasants . . . and I Wanted a Pair Each of . . .*

Pennsylvania's Dynamic Duo

By Nick Sisley

THE DAY STARTED off well, then it turned sour, only to have the best of endings—at least as far as an upland bird hunter and bird dog man was concerned! The previous day I'd bagged a limit of two ruffed grouse in less than a half hour. A limit in such a short time is a highly unusual bit of luck, no matter what game bird you're after, let alone with such a wary adversary as the ruffed grouse.

Because of that stroke of good luck the previous day, I was prepared for a bad day as I started this hunt. As I stepped out of the car it started to rain slightly, so I got back in and sat for a few minutes. Soon it stopped, and though it looked threatening, I had come to hunt, not sit in the car.

I put a few 7½s in my pocket, attached the bell to my setter's collar, and turned him and my young pointer, Paul, loose. I was to regret that I hadn't put a bell on the pointer. I usually don't run them together, as I can't keep track of two clanging dog bells very well.

It was a 50-yard walk to the woods—grouse woods, that is. I'm a dyed-in-the-wool grouse hunter. It's only on rare occasions that I match wits with the other half of the Dynamic Duo—the gaudy ringnecked pheasant. As I stepped inside the edge of the woods, a grouse busted out of a small patch of gray dogwood, offering a straight-away. I missed!

I "whoaed" my dogs as I always do after a flush . . . or so I thought. I



NICK SISLEY proudly displays a day's limit of Pennsylvania's "dynamic duo"—ruffed grouse and ring-necked pheasants. They don't come easily.

could see the setter off to my right and figured the pointer was farther off in that direction. I wasn't concerned about his whereabouts because he always stops when he hears me shoot. He's sort of smart that way, even though he's young.

I took a step or two before turning the dogs loose, just to make sure another grouse wasn't sitting tight. A rabbit jumped out at my feet and zigzagged its way into the woods. I figured with two pieces of game flushed so quickly, it was going to be a great day afield.

I turned the dogs loose. I figured I had turned the pointer loose, even though I couldn't see him. The setter and I made our way up a sidehill toward a huckleberry patch that the grouse had headed for. While I was still lumbering up the hill, he flushed wild, but I got a glimpse of him and had a good idea where to look for the third flush. Still, the pointer wasn't back. He's a fairly wide running dog, as average bird dogs go, but he checks back with me often. He had only been gone for about five minutes, so I wasn't concerned.

Grouse in Fencerow

I headed for the fencerow where I figured the grouse my setter and I were playing with had landed. I found him right where I'd thought I would, or rather the setter did. He was egg-walking into point when the bird erupted. He headed back along the fencerow whence he came, but made it only about 10 yards before my short-barreled 20 gauge dumped him. The setter stopped at the shot as a mannerly dog should, and I did the retrieving. As I field-dressed the grouse, I became seriously concerned with the pointer pup.

Most any hunting dog comes running when he hears his master shoot, and this dog always has, too. Now I regretted not having put the bell on him. A grouse dog man thinks of only two things when his dog does not check back after a reasonable length of time. Is he running deer, or is he lost on point? The bell is a tremendous help in keeping track of a dog in thick cover, and you know immediately when he goes on point if he's within hearing range, but it is hard to have two bells ringing in your ears

and keep track of them both.

The setter and I began swinging in the direction the pointer had last been seen. After some time, we had worked back to the car, seeing nothing of the other dog. I hadn't called him yet. I don't like to call in my bird dogs because they get to depending on me finding them. With a dog that runs out to any extent, you'd be hunting them all the time if you abided by that procedure. I try to keep my mouth shut and get my dogs to look me up. After all, they are the ones with the superior olfactory powers.

It was then I heard a dog baying. I was sure it was Paul and I was afraid he was running a deer. I put the setter back into the car, then I took off in the direction of the baying hound. It was "only" two ridges away, steep ones, too. I was in a hurry and was really puffing when I got to the top of the second one. I found when I got there that many house dogs were barking at the houses in the valley below. However, one dog seemed to be baying in the woods. I figured that was my dog, so down into the valley I went. I don't know if I was relieved or mad when I found it was another house dog doing the baying. I still had no idea where that pointer was, and believe me when I say I was getting perturbed. At the start of this story, I said that the day took a sour note. Well, this was it!

I took my time and hunted back to the car, but my heart wasn't in it. I drove around the area where the dog had been lost, with no success. I stopped back where I had originally parked. It had now been over an hour and a half since I had lost him. I got out of the car and started whistling and calling for the first time. In only moments the pointer came nonchalantly trotting down toward the car. He wasn't even winded, and I'm still not sure what he was up to. My guess is that he got turned around and couldn't find me, so he just sat down until I found him.

I didn't punish him. I had lost him for so long, and had been so sure he was in the next county running a deer, that I was relieved to have him back. Also, there's no sense in punishing a dog if you don't know what for, or if he doesn't know what for either. I put a bell on his collar, got the setter out of his box and put a bell on him, too. Then we went hunting the same cover we had just been in.

It was a good hour with the dogs finding some birds and handling them well. I managed to miss two difficult shots, but somehow I was confident that I would soon bag my second bird. It was about this time that the title of this story came to mind. There aren't many states where a hunter has a good chance of bagging a limit of the "dynamic duo" in covers only a few miles apart. Two of each of these birds could make any hunter happy. I had always been reluctant to use my dogs on pheasants because I figured the bird's running tendencies would ruin my efforts at grouse training. But as I just said, two of each of these would make quite a day.

Concentrate Carefully

I decided to concentrate carefully on the next flush. Soon the setter was on point. When I walked in for the flush, Ol' Ruff burst up and back over my head. He almost had me buffaloed, but a lucky shot dropped him near a big drumming log.

I unloaded my 20 and headed back to the car. It was nearing three in the afternoon, and I didn't have long to bag a limit of ringnecks before dark. It had been after lunch when I started to hunt.

I knew just where to go. There aren't many ringnecks in my section of the state, but I had hopes of finding a couple in a favored old haunt. Again I turned both dogs loose, but I didn't attach any bells to their collars, figuring the noise would only send Mr. Ringneck to his running ways that much sooner.

It wasn't as easy as I thought it

would be. No hunting is, I guess. There weren't any birds flying down my gun barrel. It was about 4 o'clock when my setter came on point at the tail end of a crab apple thicket. As I approached, he broke point, egg-walking through a stand of aspen, then into a dead fall. I knew he had a pheasant in front of him, and I knew



THIS IS THE YOUNG pointer named Paul—with bell firmly hooked to his collar after its absence sent Sisley on a long fruitless search.

I couldn't get a shot through the dense aspens in front of me. I started running around them to be in position for the shot. I was no more than a fraction of a second too late. A big rooster got up and away just before I got around the thicket. I did, however, get a good chance to see exactly where he went. Again I "whoaed" the dogs before going on to try for a reflush.

I was concentrating on the spot where the bird went down and not paying any attention to the dogs. The next thing I knew, two cackling roosters lumbered into the air off to my right. I judge that my pointer pup did

something wrong because he was right there. I yelled "whoa," and got off a hurried shot. It wasn't a killing one, but the bird came down. This was bad news. I don't have my dogs retrieve normally. I think that asking a dog to retrieve after requiring that he stay steady to wing and shot can only confuse him. However, no sportsman likes to lose a wounded bird. I called both dogs in for a retrieve, knowing full well the ringneck's famous ability for running unbelievable distances carrying an appreciable amount of shot.

Both Dogs Excited

Both dogs were excited and wouldn't hunt close enough. I figured the rooster was half way across the county while my dogs were wasting time. I stayed a few steps back from where I'd seen the rooster go down, not wanting to confuse the dogs by mixing my scent in with the crippled bird's. Finally, I stepped in closer, encouraging the dogs to come and find the scent at the end of my extended arm.

Much to my surprise, the bird was still there. This time it took a lot of effort for him to get airborne. When he finally did, he was in slow flight, no doubt because he was carrying some of my shot from the original flush. I waited until he got out of splattering range, then dropped him.

The setter, which had been excitedly searching nearby, saw this entire spectacle. Needless to say, he didn't hold steady, but I couldn't blame him for not doing so. After all, I had been telling him to retrieve. The bird hit the ground and he was on it. A little

coaxing on my part and a little mouthing of the bird on his part, and he brought it back.

Now back to the bird I had been pursuing when this unfortunate fellow had taken to the air. I circled the spot where he had landed, thinking this maneuver would reduce the chances of his running off. I don't think the bird ever moved from where he landed. My pointer pup came on a beautiful point right where I figured the bird was. The setter eased in and backed him, after verifying the scent.

I walked in and had to practically tramp on his tail to get this tight sit-ter into the air. At the flush he put a big tree between us, a move similar to one of the grouse's many maneuvers. But unlike the grouse, he came from behind the tree in a short time and offered a straightaway shot.

Now the fitting end of this story would be a miss of the easy shot. However, I again let the bird get out of splattering range, and a charge of 7½s sent him down into thick cover. The pointer held steady to the flush and shot, but the setter broke a few steps. A quick "whoa," and he stopped short. I charged into the thick cover, hoping I wouldn't have to turn the dogs loose again to attempt a retrieve. The rooster hadn't even made it to the ground. He was wedged between two limbs in this thick blowdown.

It was just past four o'clock as I started for the car. I had spent nearly an hour trying to find these ring-necks, and had been about ready to give up. Then I bagged two birds in a matter of minutes, to give me a limit of each of the Dynamic Duo. What a satisfying way to end the day!

Good Guy to Have Around

Included among the 10,000 garden pests a toad catches in one summer with its sticky tongue are ants, potato bugs, beetles, plant lice, wasps, spiders, moths, caterpillars and flies.

I Wanted a Bear and Was Willing to Work for It, but I Didn't Realize How Much My Friends and I Were Going to Work, or How Big My Bear Would Be

Bear . . . A Big One!

By Burnell Rhodes

SEVERAL INCHES of fresh snow blanketed the ground, making the hardwoods and pines of the surrounding hillsides show up in sharp contrast. The conditions should make for better than average bear hunting, I knew . . . but I had no idea at the time just how good the hunting was going to be!

It was the first day of the 1967 season, and Leon Mummert and I were east of Lower Pine Bottom Road, several miles from Waterville in Lycoming County. My wife and I keep a mobile home in Waterville as a hunting camp and vacation retreat, and we drive up as often as possible from our home in Hanover. During earlier scouting, I had found three different sets of bear tracks in the area Leon and I now were hunting, and I had resolved to make a good effort to bag a bruin. Clyde Fuhrman, who lives near me, also owns a hunting camp about a stone's throw from ours, and we had talked of hunting together, but he decided to try his luck at another place he liked. So in the morning, Leon and I had left camp long before daylight to hike in to the spot I wanted to hunt, and I had placed him on a stand overlooking a little valley where I'd seen tracks earlier.

I had moved only a few hundred yards from him when I heard his rifle crack. Seconds later an exultant shout brought me hurrying back to him. He was bending over a glossy black bear, smiling widely.

"I got one!" he yelled when he saw me coming. "I got one!"

"You sure did. He's a beaut," I said. I felt as happy about Leon's success as he did.



MOUNTED HEAD OF Burnell Rhodes' big bear. Taken in Lycoming County in 1967, it scores 19-13/16, which puts it in 8th place in state's records.

I took several photos of Leon and his trophy, then we field-dressed it and lashed it to a pole. We later found out that the bear weighed 110 pounds, which isn't exceptionally big, but he really gave us sore shoulders before we got him back to camp. I decided that was enough exercise for one day, and anyway, Leon and Clyde had to go home that night, so I didn't go into the woods again that afternoon. I finished the roll of film in my camera, taking pictures of the fellows and the bear, and reloaded it. In my haste, I did not check as carefully as I usually do to make certain the film was feeding properly, and that was the first step in a sad experience.

Early the next morning, I hiked to my favorite spot. This is a rocky, laurel-covered, narrow bench, about an hour's hike from the road. I seldom see another hunter in that area. I guess



Ruane Manning

it's just too far back in for most hunters to consider it. But as I mentioned earlier, I'd seen plenty of bear sign there, and it was a bear I wanted. And the way I figure it with any game, the thing to do is find out where it is and go get it. Sometimes, of course, getting it is just the beginning. . . .

I was sitting there, my back against a tree, searching for any sign of movement among the black trees, expecting to see a bear even though common sense told me the odds were greatly against me. And I saw him.

I guess you'd say he was running, although he wasn't moving very fast. At least he didn't seem to be, but maybe that's because I was concentrating so hard, seeing all the little details that normally don't register—the way his fur rippled when the sun hit it, stuff like that. He wasn't far away. About a hundred yards. Black as he was, the cross hairs in my scope showed up sharply against his fur, and I hit him with the first shot from my 257 Weatherby Magnum. He went down but got up and sort of staggered and stumbled off through the brush. I kept shooting. I shot four times altogether, and hit him three out of the four. He was up and down at every shot. The one that put him down to stay was through the side of the head and into the neck.

I didn't know it at the time, but that shot cost me first place in the Pennsylvania Sportsman Show's big game contest for bear skulls that year. Enough of the bone at the skull's widest part was shot away that my trophy ended up in second place. But that's all right. At least I had him. When later scored officially for the Game Commission's measuring program, the skull measured 19-13/16, which puts it in eighth place in Pennsylvania's all-time records. This is truly a trophy to take pride in.

But when I ran up to my bear I want to tell you I was a bit flabbergasted. He was just so big—so much bigger than any other bear I ever saw. I could hardly move him enough to

do the field-dressing. I knew I had no chance at all of dragging him to the road. So there I was, with one of Pennsylvania's biggest bears of all time, and no way to get him out of the woods.

I made sure my tag was securely fastened to the bear, took several photos, and then started the long hike back to the car through the heavy laurel and oaks. I had some qualms about leaving the bear, but I didn't think anyone else was likely to find it that far back in the woods—or move it if they did find it. I knew it would take a gang of fellows to get it out, or perhaps someone with a "cat." But I was unable to find enough men for the job by dark that day, so my bear had to remain in the woods overnight.

Got a Big One

Before going back to camp, I called Leon in Hanover and told him I'd got a big one. He in turn told Clyde. I then went to camp for supper. My wife and I tried to figure out some way to get the bear out of the woods. We finally decided the best thing to do was to bring out the head and hide, so I'd at least be sure of a trophy. While we were talking, two friends, George Gibson of Bolivar and his son-in-law, came in. They'd heard I had got a big bear and wanted to see it. When they learned it was still in the woods, George offered to help get it out. His son-in-law wanted to help but had to work.

By 7 the next morning, we were on our way back to the bear. I was carrying a block and tackle to raise him up so we could skin him. The first time we tried this, the bear's weight broke a new clothesline like it was string. We had to combine several lengths of the rope to make it strong enough. In spite of the struggle and hard work, George seemed to be enjoying the problem of the big bear, and to tell the truth, so was I. When we finally got him hanging up, I realized how enormous he really was. All the time we were working with him,

I was stopping to take pictures. I wanted all of this recorded for my slide collection for I knew that this was the sort of thing that happened only once in a lifetime.

While skinning the bear we found three other bullets in the body that were grown over with heavy gristle. They looked to be about 6mm or 25 caliber. He also had what looked like a 22 Magnum bullet just inside the hide on a front leg, apparently from small game season, and some No. 6 shot had just pierced the hide on his chest. These shots might have been made by a turkey hunter, I feel. Such pointless shooting is uncalled for, and is the sort which a real sportsman would never do.

Eight Hours

It took George and me eight hours to skin this big bear and get the head and hide back to camp. It was some job lugging that big hide all the way through that rough country. It seemed to catch on every clump of mountain laurel in the county. After we got back, we weighed it, and the head and hide alone went exactly 85 pounds! Some bears killed illegally in Pennsylvania each year weigh less than that.

During the evening a friend of mine, Deputy Game Protector Paul Warnick, who was hunting near Waterville and going home that night, offered to take the head and hide home and deliver it to the taxidermist. I was glad to be able to send it along, because the weather seemed to be warming up and I didn't want it to spoil. I intended to stay in camp through the deer season.

After Paul left, my brother Dale and his son Dennis arrived in camp for the remainder of the bear season, and Clyde Fuhrman also came back to camp to help me. Clyde had planned to come later to hunt deer,

but when he heard about my big bear he arrived earlier to see if he could help with anything.

The next morning, Dale, Dennis, Clyde and I made the long hike back to the carcass. We felt that bear was so big that we ought to know how much it weighed, and the only way to do that was to weigh it. And that meant bringing it out. George had offered to go along again, but I thought he had already given enough of his good hunting time to help me—help that I certainly appreciated.

Well, we brought the carcass out. In pieces. I guess you can imagine the sort of effort it took, so I won't try to describe it. I might say none of us is anxious to repeat the procedure. I think we had a pretty good path worn back through the brush to that old fellow before it was all over. Also, our shoulders were getting worn thin. Altogether, that bear added up to 505 pounds, including the head and hide, of course, but not the entrails, etc. I'm not certain what his live weight would have been, but I do believe he's one of the biggest bears ever taken in Pennsylvania.

That evening I decided to finish out the roll of film in my camera. I took the pictures—or thought I took them—but as it turned out, the film had slipped off the sprocket on the first snap and I didn't get one photo out of this roll. I was sick. A lump still comes to my throat when I think of those lost pictures. But I did have the bear, and its head is now mounted and its hide is made into a rug—a big one, because the hide was 73 inches from nose to tail and 51 inches wide—and I do have my great memories of the hunt, how that tremendous trophy looked coming through the woods, and how my hunting friends gave their time and strength to help me when I needed them. Come to think of it, that's enough for anyone.

And Maybe the Smartest

The wild turkey is the fastest and the largest of the upland game birds.

Blindman's Grouse

By S. R. Slaymaker, II



"I THINK I GOT ONE," Tim Kauffman yelled. **"I really think I got one!"** And indeed he had—his first ruffed grouse, a true hunter's prize.

WE SWEPT downhill through yellow ochre clumps of shin-high grass to dank, scrub-covered bottomland. A musty smell of decaying wild apples and withering laurel put us on guard. The sight of a spindly stand of thornapple trees dead ahead stopped us cold. Glenn Kauffman, several feet to my left, smiled warily. His 14-year-old son, Tim, flanking the right, grimaced and hitched his 16-gauge double near shoulder level. Words were blocked by telepathy signaling prime grouse cover. My pulse quickened. Glenn's rapid breathing was marked hazily on snappy autumn air. Tim slowly changed stance slightly. His oversize boots sucked loudly in cloying peat.

Thrashing Wings

Oppressive silence was rent by thrashing wings. Tawny blurs flitted crazily against the sombre backdrop of surrounding thicket. My chin felt wood, and the safety clicked as the tail of my left eye caught a patch of blue overhead at the instant when it filled with a chunky silhouette. I swung left. My 12-gauge Winchester 21 spat sharply. The bird buckled and tumbled

awkwardly, its black-barred tail intermittently flashing the canopy's filtered sunlight.

Before the grouse struck ground another clattered up, low and right of center. "Double," I yelled and fired number two. But I was off balance and impulsive. That zigzagging and heavily shadowed target proved too elusive. The load blew the top off a squat thornapple bush.

The Kauffmans' guns were cracking in echoing volleys. "Bird down!" Glenn yelled, and Tim, in near amazement, kept repeating, "I think I got one. I think I really got one!" And indeed he had—his first ruffed grouse.

It was as much a red-letter day for yours truly. For the flushing of this covey and our easy recovery of the three downed birds was proof positive of Glenn Kauffman's repeated contention: grouse can be successfully and sportingly hunted without bird dogs.

Now it might appear that I'm overstating an obvious fact, for many

grouse hunters don't use dogs. Some can't be convinced that there is such a thing as a good grouse dog (Ol' Ruff can be that cagey!), and others come to agree with them after inept dogs foul up a couple of hunts. But I've known few grouse hunters who are as consistently successful as those who shoot only over well-trained dogs.

Dogs Valuable

A proper bird dog is of more value to grouse hunters than to devotees of other game birds. In the pastoral habitat of the ring-necked pheasant, your game can often be "tramped out" of grass or cornfields. Viewed as big as a boxcar against sparse or nonexistent tree cover, pheasants don't present the most difficult of targets. True, they can take a frightful wallop without being stopped, so dogs can be a boon in retrieving. Still, typical ringneck topography makes dogless retrieving fairly easy.

Bobwhite quail also inhabit lowland cover that usually makes for facile finding and flushing. Once a covey is put up, singles aren't difficult to track down, for they don't fly far. And they're easily retrieved. Once hit, even lightly, they're usually stopped cold.

Obviously, dogs do enable hunters of these prime game birds to be more successful. Not to mention that shooting them over bird dogs develops finesse, resulting in maximum enjoyment. Wing shooting without a dog, though, is better than none at all. My many dogless days in the field bore this out. But none had been spent in the wooded fastnesses of Ol' Ruff. In the more dense cover of uplands, birds are much harder to locate. If a hunter has no warning of an impending flush, he has precious little time to get on target, what with the grouse's fantastic takeoff through surrounding tree trunks, branches and scrub.

Heavy cover makes it difficult to spot birds in transit from feeding grounds to roost and vice versa. Also, it's widely agreed that grouse are the wariest of game birds, often unpre-

dictable in turning cover to their advantage.

So in coping with grouse, a dog must work attentively and close to the hunter. Should he range too widely and nonchalantly, birds will be by-passed or flushed too far from the hunter's obstacle-ridden line of sight. As dog work reaches perfection, the esthetical as well as the practical side of grouse hunting is realized to its fullest. Small wonder, then, that I considered the working of grouse cover without a well-honed dog blind man's hunting.

I never owned a grouse dog but was lucky enough to hunt with a couple of friends who did. When circumstance precluded my shooting over these top notch animals, I became resigned to a sabbatical. It lasted for nearly a decade. Were it not for that shoot with the Kauffmans, I might never have renewed my acquaintance with Ol' Ruff.

In 1956, I had moved from Lancaster, Pa., to our old family homestead near Gap. At the same time, my dog-owning shooting companions moved to more distant areas. My new property was bisected by U. S. Route 30. In the heart of the tourist-clogged Pennsylvania Dutch region, this is one of the most heavily traveled roads in the country. It was no place for a bird dog. Besides the traffic problem, commuting and traveling ruled out the training, workouts and companionship which make up the just due of a fine bird dog.

Shootin' Postmaster

I became acquainted with Glenn Kauffman shortly after my move to Gap. Glenn, the postmaster, was well known as a hunter of big game and small, so I should have heeded his defense of dogless grouse hunting. But I politely declined all invitations to his hunting camp. It wasn't that an outing there wouldn't have been pleasant. Given the above considerations though, I couldn't bring myself to believe that dogless grouse shooting could be very productive or enjoyable.

Nine seasons passed me by. Then

in the post office one fall day in 1965, while talking about grouse hunting, Glenn said something worthy of serious cogitation.

"I was waiting to make my point," he said, "but since it looks like I'll not get the chance, here's the secret." With a confidential chuckle he said, "You hunt as if a dog was along, but *you don't work as hard!*"

Outstanding Hunt

I was reminded of an outstanding hunt in 1955, in the Alleghenies near Snow Shoe in Centre County. Tom Nunan, Jr., of New York City had been my partner. As we worked our way down a sloping draw, Tom's English setter Jimmy gamboled nervously towards a stand of oak that was heavily interspersed with thornapple trees. We were as high-strung as the dog, for we were familiar with this cover. It rarely failed to produce.

Jimmy skidded to a stop. Hunched low and quivering, he approached the tempting cover. Gingerly we followed, our guns at high port arms. Almost concurrent with the dog's exquisite point came that heart-arresting, staccato clatter of an airborne grouse. The bird arched high to our left. Tom's 12-gauge Remington pump boomed. A tiny air burst of feathers above the oaks signaled a clean hit and the start of the bird's spectacular tumble to the scrub-covered incline below us.

Jimmy was barely off point before he was on again. Wings rattled straight ahead. My Model 21 cracked and the bird veered hard to the right and up. Before he reached the protective canopy, the second barrel knocked him into a flat spin.

As Jimmy moved deeper into the cover we reloaded and followed. He was soon on point again. We froze with him for 15 or 20 seconds. Then pressure on the remaining birds became too great. A half dozen exploded in a thundering getaway. Tom pumped off three rapid-fire shot and dropped one bird, and I belted one cleanly. All were easily recovered.

I'd hunted this particular cover and several like it repeatedly from the early to mid-1950s, always in the company of experienced grouse hunters and top-notch dogs. For example, Jimmy was the grandson of Tulagi Chief, a famous field trial champion



SAM SLAYMAKER ADMIRES a handsome brace of grouse bagged in a conifer roost bordering a dirt road where birds were dusting earlier.

English setter of the mid-40s, trained by T. R. Nunan, Sr., Tom's father. But no matter how adept Jimmy was at pointing grouse, the vast percentage of flushing was always in those favored covers.

They were lush with the grouse's favorite fare—acorns, wintergreen berries and thornapples. So we concentrated on them; usually early in morning, when birds were repairing from their roosts to feed and before they became gorged enough to move on. It never occurred to me that in promising cover, dogs, if not quite super-



DOGLESS GROUSE HUNTERS can do all right if they learn the country and hunt prime cover as carefully as they would with dogs.

fluous, were not vital as safeguards against accidental flushing. Witness that when Tom and I closed on a favorite hot spot we didn't need Jimmy to put us on guard!

It dawned, too, that in familiar cover dogs are not as vital to retrieving as I'd once thought. When on guard for the flush, a hunter can be more alert in marking a fallen grouse. It's the bird flushed unexpectedly in unfamiliar cover that can be easily lost without a dog. Also overlooked was the fact that few of my dropped grouse got away. Often the sound of their wings beating on leaves led me to them. The ruffed grouse is lightly boned. It doesn't take a heavy well-centered load to stop him. Numbers 7½ or 8 in the open and 6 or 7½ in the

choked barrel usually suffice to keep my downed birds from running.

My most successful hunts, therefore, indicated that grouse should be sought near their food. But not always.

Late one afternoon a party from our camp was hunting in a steep-walled valley. On one ridge several hundred yards away, some small, very unpretentious dwellings hung precariously. Each was festooned with massive and sophisticated looking TV antennas. We positioned ourselves in a pine and hemlock woods paralleling the houses, well clear of their safety zones.

Metallic Monstrosities

Our sweep began amid gales of laughter. Etched against the striking orange-lavenders of the setting sun were those gleaming, metallic monstrosities. This, in what otherwise could pass for trackless wilderness!

Soon the laughter caught in our throats. A reverberating beat of wings sounded on all sides. In the dense cover we soon were putting out elusive, phantom-like birds. Few birds were scored in the gloomy woods but some birds banked over the valley. Against that gorgeous sunscape, the speeding grouse presented a tableau fit for calendar art. In 20 minutes it was all over. More grouse probably could have been raised, but the mandatory quitting time had arrived. We had enough birds, very few shells, and hot gun barrels!

This was a typical end-of-day experience. Our best action often occurred on high ground, in stands of conifers, commonly grouse roosting areas. Unlike feeding stations, without their telltale signs, these areas are not easily located. At sundown in open ringneck country, birds are frequently seen in long glides into their roosts. But, as noted, heavy cover often precludes detection of the homing movements of grouse.

Significantly, most of our best roosting shooting was in proximity to food cover. Some spots on the floor of "T Valley" were rich in food. On the

great afternoon, we evidently caught the birds just as they were reaching the heavy timber from the feeding areas downhill, for flushing occurred along the rim of the ridge. I realize now that our dogs were useless. In the dim light their work would have been difficult to observe. But we hadn't even tried. The heavy concentration of birds made dog work unnecessary.

Wearing Hikes

That grouse are more effectively hunted near food or shelter is so obvious as to be a truism. Naturally we sought out such cover. But a working dog isn't easily confined to specific covers. It's hard to tell where he'll make game, grouse being as unpredictable as they are. So we usually gave dogs their heads and were led into those long, wearing hikes over rough terrain so commonly associated with grouse hunting. We became entranced enough with dog work to become dependent on it. I had not realized that we could have eliminated a lot of walking had we dispensed with dogs. We might have foregone occasional singles; even some coveys. But in the long run, concentration on prime feeding grounds and roosting areas would probably have brought larger bags.

So I gathered that Glenn Kauffman's injunction was to hunt promising cover as you would with a dog—alertly; and to hunt promising cover only.

Anxious to try Glenn's strategy, I quickly accepted an invitation to his camp. On the evening before opening day, 1965, the three of us—he, Tim and I—drove along a moon-bathed Susquehanna, north from Harrisburg into the darkening Alleghenies. Our winding course to the camp, which is near English Centre in Lycoming County, was spangled by the luminescent eyes of deer. We had a late arrival, but we were keyed up enough to rise with the dawn. While attacking Glenn's flapjacks, sausage and coffee, a jolting thought intruded: I'd even forgotten about not having a dog!

Within a couple of hundred feet of the cabin occurred that aforementioned red-letter shoot. Nearby were other fetching looking feeding grounds. In most there was shooting. We missed a lot; not because we weren't as ready as one can ever be while grouse hunting, but because the birds simply made fantastic use of the cover by corkscrewing around trunks, branches and thickets. Still, while repairing to camp for lunch it was agreed that the best of dogs could have done little to prevent those birds from making fools of us.

After loafing through midday we set off again. As it was still early, we did not head straight for Glenn's favorite roosting grounds. "We'll hunt some dirt lumber trails and stream bottoms," he said. "You can often catch 'em at dustin' and drinkin' during early afternoon." Again Glenn proved his savvy. Along a dusty trail Tim moved a bird into a beautiful dead ahead flush. But the youngster was too slow and both barrels missed. Then we worked some marshy bottomland. I missed a couple of woodcock, Glenn a grouse. Tim scored another first, his initial woodcock, with a beautifully executed overhead snap shot.

To Higher Ground

With a sinking sun we moved to higher ground. But not aimlessly. Glenn led us steadily uphill, through patches of wild grapes and a derelict apple orchard, likely spots for the odd grouse to tarry on his way to roost on a hemlock girded hillside. In grassland bordering the trees we raised a bird. More flushed among the hemlocks. Again, several were missed because of the heavy cover and the birds' extreme wildness. We finished shy of our limit. But how often do you get your limit of grouse—even with a good dog?

I was less depleted by this hunt than by previous ones—withstanding a decade of aging—thanks to Glenn's providing optimum opportunity for action in minimum area. Feed-

ing grounds were worked when birds should have been there. So were their afternoon lounging spots. Glenn sought roosts in close proximity to feeding and dusting areas. Like a good salesman, he got the most out of his territory by knowing it intimately. Consequently, we were able to hunt as we would have with a dog. For Glenn knew when to punctuate our forward motion with those frequent stops which tend to confuse birds and precipitate flushing—a tactic commonly employed when dogs make game.

I didn't have to be sold on a return trip, when the hardwood foliage would be thinned and shooting easier. Later, Glenn, with never a "told you so," allowed as how his dogless stalking was anything but blind man's hunting. I seconded the motion, ruing the fact that it took me nine years to do so.

Other trips followed in each succeeding year, several in tempting cover scouted while I was trout fishing the Poconos. An address book is rapidly filling with the names of knowledgeable natives. If I can turn up one to an area half as familiar with his country as is Glenn of that around the English Center, I'll not want for plenty of action in the seasons ahead.

Those hunters who pass up grouse shooting because of the belief that dogs are indispensable would do well to learn the country and hunt principles as carefully as they would with game-making dogs. Confirmed "dogless" grouse hunters—many of whom hunt blindly in wide-ranging hikes—can also benefit from this sensible but often overlooked approach. It can provide the most rewarding of hunting for this great gamebird.

Busy Bunnies

Cottontail rabbits generally produce four or five litters of two to eight young in the course of a five-month breeding season.

Book Review . . .

Speer Manual for Reloading Ammunition, No. 8

Back in the early 1940s, rifleman Vernon Speer began making 22-caliber bullets, using fired 22 rimfire cases for jackets. His shop was a small converted grocery store. Mr. Speer is now retired, but Speer, Inc., is one of the world's largest custom bullet makers, supplying all normal bullet weights in almost all rifle calibers, plus assorted handgun bullets. For years, loading information on all calibers has been offered in the popular Speer Manuals. Number 8, just released, is the best yet. A hard-bound book crammed with loads and technical data on some six dozen cartridges and the common shotgun gauges, it gives tested loads on each with the most suitable powders. Ballistician Dave Andrews is responsible for practically all of the material, which took many months of chronographing to assemble. The book also has an excellent introduction and step-by-step instructions on handloading; a look at the basics of cartridge components; a concise review of powders by Bruce Hodgdon, who knows much about this subject as anyone; plus a highly useful section on troubleshooting shooting handloading problems. Recommended for all reloaders. (*Speer Manual for Reloading Ammunition, No. 8*, Speer, Inc., Lewiston, Idaho, 1974, 448 pp., \$3.95 ppd.)

WOODCOCK!

The Pointing Dog's Best Friend

By L. James Bashline

WITH A FEW local exceptions, the term "bird hunter" means quail hunter in the South, pheasant hunter in the Midwest and grouse hunter in the Northeast. Depending on which western state you're from, a bird hunter could be after chukars, mountain quail or prairie chickens. But did you ever hear of a woodcock hunter? There is a small intense cadre of woodcock chasers in the East and just maybe it's by design that they try to keep the sport undercover. That's a shame too because I know of no other branch of wing shooting sport that offers as much action per hour spent as does the woodcock. The one exception might be doves, but that's a different kind of game entirely. The dove is usually in the air, going by you or at you, while the woodcock invariably presents a rising shot that exemplifies upland game hunting at its finest.

Even though some 500,000 are taken annually in the United States, the woodcock is a species that most hunters are not taking advantage of. Many of the eastern and midwestern states have some native populations but the big bonanza of timberdoodles is represented by the large flocks of flight birds that annually cross the country from north to south. These are the long-traveling Canadian birds that find the Far North marshes exactly perfect for their housekeeping requirements. When winter signals its coming with frozen topsoil, the woodcock leave the nesting grounds and start their annual trek to the Louisiana wetlands. Natives team up with migrant birds and groups sometimes number in the hundreds. Their speed of travel doesn't change much from year to year and every suitable stopping off place gives state-



TYPICAL WOODCOCK cover. Note that the Brittany is wearing a bell. When it stops ringing, it's time to start looking!

side hunters a one- to three-week chance at them. In Pennsylvania, where I've done most of my woodcock chasing, the peak of the flight occurs during the last two weeks of October, with fair shooting available a week earlier and a week later. And some shooting it is! Without the help of a pointing dog, 20 flushes a day are not out of the question. With a dog, twice that number could be considered an average day.

Aside from the shooting itself, the woodcock is the greatest possible bird on which to launch a beginning dog. During the peak of the migration



Photo by Bob Parlamen

there are lots of birds for him to smell and he'll have the opportunity to point more birds in a single day than he may find during the rest of the season. A solid week on woodcock and you've got a well started dog . . . if, of course, he had the stuff to begin with. Quantity of birds is a big factor but the quality that makes the woodcock so valuable for the young dog is his tremendous nerve. He'll fly to be sure, and do a good job of it, but not until he's darn good and ready. Unlike a running ringneck or fidgety grouse, the woodcock will usually lie frozen until the hunter practically walks over him.

Hitting Not Easy

If you have never hunted these long-billed bullets don't get the idea that this close-flushing attribute makes for easy hits. After a woodcock leaves the ground he's likely to do anything. First off, the funny whistling sound of his wings throws the hunter off balance. After he tops off at about 12 or 14 feet, he may decide to fly right at you or in any other direction, zigging and zagging while your shotgun barrel is scribing strange designs in the air trying to follow him. If you score better than one out of three shots you're in the expert category.

Quite a few woodcock are taken by hunters who are really looking for other species. A woodcock flushes and the hunter just happens to be there. The woodcock is shot, or missed, with the gun he happens to have in his

hands at the time. It is most likely that this gun is not the ideal woodcock getter. The firearm that's most ideally suited for woodcock shooting is the same one that will do the best work on grouse or bobwhite. This means a short, fast-handling, open-choked scattergun that seems to come to the shoulder by itself. A full or modified choke is out of the question. An improved cylinder choke is good but skeet or nearly straight cylinder is even better, as the shots will be close.

The woodcock, like a grouse, is not difficult to *kill* but it is difficult to *hit*! Two or three pellets will bring a woodcock down, but it's not always easy to put those two or three pellets into him. The very finest woodcock hunter I ever knew had a single-barrel Iver Johnson 12-gauge with the barrel bobbed off to 25 inches. What he had for choke I wouldn't venture to guess, but he did harvest an impressive number of timberdoodles every year. Anything over 25 yards was home free, but under that distance it was in the bag. He had a foolish looking pointer that walked (yes walked . . . not ran) like it didn't know what the name of

A YOUNG WOODCOCK hopeful. Chances are this young Brittany will make an outstanding woodcock dog. Many of this breed do.



the game was. Not very stylish to be sure but that dog simply didn't miss a woodcock and retrieved them beautifully.

It's a popular conversation topic among bird shooters to discuss the fine dogs they have known that absolutely would not pick up a woodcock. Something about the smell, taste or loose feathers, they always declare. It is true that some dogs will not retrieve woodcock, but then some dogs won't retrieve anything. The traditionalists will be shouting for my scalp, but in practice I have seen very few dogs that would retrieve at all that would *not* pick up a woodcock. Most pointing breeds will pick them up if they'll pick up anything else and I have yet to see the mediocre Labrador that would not pick one up. So much for that.

Where to Look?

Okay, you've got a young bird dog, or for some other reason you feel you should look for woodcock. Where do you look? This is the trickiest part of the woodcock picture. The kind of cover that this game bird haunts is thick but it isn't; and then on the other hand, it's thin but it isn't. Not much of a description but I'll bet that the woodcock campaigners of many years know exactly what I'm talking about. Areas that have been retired from cultivation during the past 10 years are perfect if enough low brush has grown up to semi-hide the fact that it was once cropland. Partly drained swamps are good too . . . again if the brush is not much more than head high with an occasional tree going 20 feet or so. The soil must be porous, since the woodcock probes the earth for earthworms and the larvae of various insects. Earthworms, however, make up well over 50 percent of the diet and an area that is earthwormless will have very few woodcock. The common alder is the tree to look for. A swampy thicket of alders coupled with a sprinkling of aspen, thornapple and dogwood is just about perfect.



ROUND-TIPPED WINGS indicate that this is an adult bird which has made the southern migration at least once before.

Of course, finding this perfect spot is a rare occurrence. Alder generally is the key, and in areas that this species is not common aspen is second best. The ground cover should be generous but not too thick, since this will retard the woodcock's probing for his underground food. In percentages this could be expressed in this way. If head-high brush is prevalent in a soft soil location, look for about 25 percent of the soil to be covered with grass, golden-rod, ferns and some of the sedges. If all of this sounds a little fussy, it's intended to be. The woodcock, while plentiful, wants his breeding, feeding and resting spots to be just so.

Woodcock courtship and mating takes place in an opening that contains little or no high vegetation. But nearby there is always a suitable nesting or resting spot that conforms to the description given in the last paragraph. Once you find this spot (and it may take some doing) you'll find some

native woodcock there year after year. The migratory birds will frequent this hangout too and you can, in future years, almost set your calendar by their return date.

Because of the woodcock's rather singlemindedness in preferring a specific type of cover, the hunter can, if he's not careful, overgun a particular spot. Once a woodcock is flushed he won't fly very far. One day in Sullivan County, I flushed what I was sure was the same bird seven times (I shot at him three times and never did get him).

Earned His Freedom

After the third miss I decided he had earned his freedom. I wanted to see just how far he did fly, and I paced off the steps between flushes as closely as I could and came up with the conclusion that at no time did he fly more than 80 yards. On the first flush he didn't fly more than 25 yards. What I'm saying is that the persistent hunter, with or without a dog, who watches the flush carefully, can eventually get more than one chance at any individual bird. It is possible to "shoot out" a good covert. If the flushes seem to be getting farther apart it's a good sign that you should lay off that particular area and look for a new spot. They'll be back there next year and you'll have another crack at them.

Woodcock are small birds. The males weigh about five and a half ounces and females about a half ounce more. To the hunter used to dressing larger game, the effort may not seem

worthwhile. The size is more than compensated for by the unique flavor. The breast meat is very dark and so tasty that it needs little if any amplifying herbs. Slow pan frying in butter is a delicious preparation. Roasting them with a very mild dressing is also great, although care must be taken not to overcook them. The taste of the meat is totally unlike any other game bird.

Artificial propagation of woodcock has not been successful. Game farm owners and shooting preserve operators have found that their time is spent far more wisely, and more profitably, by raising pheasants, quail, mallard ducks or some exotic bird. Maintaining habitat for woodcock is actually a relatively easy thing, if you have something reasonable to start with. Once an area becomes too heavily overgrown with maturing trees or too much ground cover, it's soon going to be a forgotten place for the long-billed probers. If you own a patch that holds woodcock or know someone who does, keep the larger trees thinned out at five-year intervals and run a herd of cows on it every two or three years during the summer. The cows do two things. They help keep the underbrush from becoming too thick and keep the area well fertilized, which in turn produces more earthworms.

If you like to shoot at flying game you've got to like the woodcock. The ammunition manufacturers love 'em and so will that young bird dog that I know you're thinking about buying in the near future.

Record Sum Spent for Hunting Land

During the fiscal year ending June 30, 1970, the Game Commission approved the expenditure of \$1,713,095 from the Game Fund for the purchase of public hunting lands, an all-time record. During the same year, an additional \$904,306 in Project 70 funds was approved for purchase of public hunting acreage. This makes a total of \$2,617,401 for additional State Game Lands for the year. Since 1920, when the Game Commission first purchased land to be set aside for public hunting, the commission has acquired 1,100,531 acres at a total cost of \$12,754,130.

The Eastern White Pine

(*Pinus strobus*)

By Ken Calnon

THE WHITE PINE tree played a very important part in the early history of Pennsylvania. Before the turn of the century, the steady rhythm of the heavy broad-axe could be heard throughout the forest. White pine trees were needed for various uses. The 90-foot spars that were cut from the Black Moshannon area were destined for use as masts on the ships of our nation's young navy. Timber of lesser stature was used to build houses, cabins, tables, benches and other assorted wooden items.

Today, white pine is still prized for its lumber, which is used in many ways. It has straight grain, soft texture (which makes it easy for the carpenter to work), and sometimes beautiful knots which are lovely when finished in natural tones.

Early growth of white pine is relatively slow. Young trees growing in the open average about five inches high at three years of age; a foot high when five years old; and approximately four to five feet high after eight to 10 years of growth. Between the ages of 10 and 20 years, growth is often very rapid. It may grow as much as four feet in height, in a single year. Although yearly growths of three feet are not uncommon, the average is usually about 16 inches annually.

If undisturbed, white pines live to a common age of 200 years, while the maximum age may exceed 450 years. In Lycoming County, in 1899, it was reported that a white pine tree was felled that measured 12 feet across the trunk and 200 feet in length! Trees 40 inches in diameter and 150 feet tall were not rare in virgin stands of timber. However, the increasing demand for lumber has greatly shortened the life of today's average white pine.

White pine is not difficult to iden-



Eastern White Pine

tify in the field. Basically, the tree is well shaped. Closer observation will reveal long, soft, bluish-green needles. There are five needles in a bundle and they are three to five inches in length. An evergreen, its needles remain on the limbs about two years; then they drop off and are replaced by new needles.

The tree blooms about May 1 in Pennsylvania, and pollination takes place around June 1. Some years trees bear male flowers so abundantly that heavy pollen clouds are formed in the air. The cones usually ripen in late August. White pine cones are of huge proportions (four to eight inches long) in comparison to the cones of our state tree, the Eastern hemlock (*Tsuga canadensis*), which are one-half to three-quarters of an inch long.

The bark is dark brown and rather smooth in comparison to the rough and deeply furrowed bark of other members of the pine family.

I Felt Certain That Proper Preparation Could Get Me Within Arrow Range of a Big Buck—and I Was Right. That's Why I Call This King-Size Whitetail . . .

My Hard-Won Trophy

By Charlie Gross

THE MOMENT was fast drawing to a close when I would find out if all the scouting I had done during the summer would pay off—for heading toward me on the trail were two of the five big bucks I had scouted for two months so that I might get a trophy I could really be proud of . . .

My plans began in late July when, while hunting groundhogs one evening, I was lying on the edge of a big field and I saw a sight that would make any hunter's blood pressure rise. On the lower edge of the field, where the trees had been cleared, was a heavy growth of scrub oak out of which, as if by magic, appeared not one or two but five big bucks, any one of which would be a good trophy. Two of these deer were of tremendous size compared to the others, but every one of them had big racks.

It was then that I started to spend as much time as I could to locate their feeding and escape routes from their bedding areas. This, as it turned out, proved to be a task that took me well into August before I was satisfied that I would have some of the odds in my favor.

Five Big Bucks

Five big bucks traveling together—or were they just here at the same time by chance? This was something I had to find out before the first day of the 1968 archery season.

What I couldn't get over was the tremendous size of two of the deer compared to the other three, which weren't small themselves! As I found out later, there was a 14-point, a 10-point, two 9's and an 8-pointer. All had racks that extended well beyond the ears; this, I have found out, is a good indication of a trophy rack.

I had five of them to scout out in about eight weeks. The first encounter I had with any of them happened one evening while I was walking along an old farm road that winds through a gap in the ridge.

I detected a movement on the side of the ridge which dropped sharply to meet the road. I froze in my tracks and waited. I

couldn't make out any object at all that looked out of place, so I continued on for about four or five steps. There they were. Two of the bucks were bedded down close to an old tree that had blown over a few years earlier, causing the whole root system to pull out, which, in turn, caused a depression in the side of the ridge. This made a perfect spot for them to bed down during the day and have a complete view for at least 25 yards in any direction. It also afforded them with perfect escape routes. If approached from above, a few jumps and they would have the safety of a thicket and swamp. If approached from below, they could either go into a stand of pine or over the top and into a thick stand of briars and scrub oak. The latter was the route they chose on this particular day.

I didn't pursue them any longer because I didn't want to drive them out of the locality. I wanted to see if they would be feeding in the same field in the evening as they had before. Also, previous experiences had taught me that, if a deer is continuously annoyed, he will move to a different locality. I didn't want this to happen.

Anyway, there I was, at 6:30, watching three of the big bucks feeding only 50 or 60 yards from me. I counted their points through the 2½-8X scope I have on the 243 that I use for groundhogs. The deer on the right was one of the 9-points, the one in the middle was an 8, and the third was the 10-pointer. It didn't take a second look to see that the two monster bucks weren't with them. I started to get a little concerned as darkness approached and they still hadn't made their appearance. Of course, it had been only a few days since I had first spotted them but, even so, I was getting a little skeptical that I might not see them enough to learn as much as I would need to know if one of them was going to end up in my bow sights.

Most of a deer's traveling is confined to a rather small area, except when the rutting season is on, and then he will travel more

extensively. During the summer, deer follow a fairly regular routine in traveling from their resting areas to their feeding grounds. This is one of the few advantages the bow hunter has over the rifleman—that is, if he puts his woods lore to work and learns the habits of the deer he is after.

I am partial to farm country interlaced with ridges and swamps. These create the thick cover that provides deer with good resting places and hiding places for doe to fawn. These were a few of the things I had to take into consideration in order that I might outsmart one of those big bucks.

A few days after spotting the three deer on the ridge, I happened to be driving on the main highway, Route 522, near the village of Wagner, when I spotted two big bucks feeding in a field of corn not more than 70 yards off the road. I figured this was as good a chance as I would get to find out where these two bedded down during the day. I drove around to the other side of the ridge. Actually, there were two ridges with a small meadow and stream running between them which I would have to cross in such a way that, if the deer moved out of the field before I got to the ridge above them, I might have a chance to spot them crossing the meadow between the ridges. There was also the possibility that they were bedding down on the ridge next to the field in which they were feeding, because there was a heavy stand of small pine trees that would give them excellent cover during the day.

Quiet Approach

When I had finally made my way over the ridges, I made a quiet and careful approach to the edge of the field. The deer were still feeding, but now there were three does about 30 yards from the two bucks. I cautiously made my way to the corner of the pine trees so I would have a better view of where they entered the woods, and this would be the point from which I would center my attention to learn when and how often they frequented this field to feed.

The three does were the first to enter the woods. About 10 minutes later the bucks started to leave. Then the very thing happened that I was hoping wouldn't. A car stopped and some kids jumped out and started to scream at the top of their voices. This put the deer into high gear and they entered the woods with about 50 or 60 yards between them and didn't give me



CHARLIE GROSS with his fine 9-point trophy. This 204½-lb. buck was one of five he had scouted for two months before the season opened.

much choice to see if I might be able to find a well worn path where they were coming out to feed.

It took but a few minutes to locate it. The path ran straight down to the meadow stream where it was no problem picking out the spot where they crossed it, as each bank was worn with hoofprints. I had as easy a time picking up the trail when it got to the second ridge, for it was covered with pines and there was very little underbrush to conceal the trail which stuck out quite plainly in the soft needle-covered ground. I followed the trail over the top of the ridge and down the other side to a dense undergrowth of small saplings and scrub oak.

Not wanting to push my luck too far, I figured I would wait until evening and re-

turn to see if I might find out about what time the deer would leave the thicket to move to the feeding grounds. The first thing I looked for was a tree from which I would have a good view and still not spook the deer, possibly making them alter their route.

I found just what I was looking for within 15 yards of the trail. I climbed the tree to make sure I would be able to get a good, clear shot and be comfortable in a long wait should I have the opportunity to use this particular tree when the archery season rolled around.

Satisfied that this was what I wanted, I returned around 4:30 that afternoon and made myself comfortable. At about 5:20, I got a glimpse of movement as the first of three bucks made his way cautiously up the path toward the tree that I was in. It took those deer more than an hour to travel the distance from which I first spotted them to a point about 15 or 20 yards from my tree.

The three bucks turned out to be 8, 9, and 10 points. Although all three wore outstanding racks, they just weren't what I was looking for. I had made up my mind I would concentrate all of my effort on the two monster bucks as soon as I could locate them again; so far they had done an outstanding job of eluding me.

I must have covered four ridges in an area of about two miles in either direction from which I first spotted them. Then an idea struck me; I would take advantage of the next rain we had and cover the creek bottoms and check the soft mud along the farm roads that wind between the ridges for unusually deep and large hoofprints. I figured I had a good lead as to where I would concentrate my effort, because I kept hearing more and more people talking about the monster deer they had been seeing on the way to work or while they were just out for a ride. This was on the Charles Hoffman farm about two miles west of McClure.

One Advantage

One advantage that I had was that I used to live on a farm no more than half a mile from the spot where they were being sighted. I figured I knew the locality pretty well and shouldn't have too much trouble locating the travel routes of the big deer.

One Sunday, after an all night rain, I set out. I spent most of the morning searching and I was just about ready to quit for the day when there they were, both of them! They were standing out in the middle of a

field as if they owned the world, and believe me, they looked big enough to own a good portion of it. Any buck that would try to jump claim on their home grounds would be in for a terrific lacing.

I guess all of you, at one time or another, have seen an exceptionally large buck and when you started to describe the size to your friends, they looked at you as if you had better have your eyes examined. As it was, this was no exception. Who could believe that two bucks, each weighing between 200 and 300 pounds, would be traveling together in this part of the country?

Travel Routes

This was on the Bill Wright farm which is set back between two ridges, one of which has a great stand of thick pines and about five or six acres of the thickest scrub oak and other kinds of undergrowth that you can imagine. The other consists mostly of oak and maple, except for a small stand of pines. The lower side of it is bordered by a thick growth of briars and scrub oak about 15 or 20 yards wide. All that was left to do now was to locate their travel routes.

By then it was early August and the deer were starting to rub the velvet off of their antlers. The two I was watching had been doing some rubbing because both were only about half covered with velvet.

The size of these two fine bucks wasn't the only thing big about them; both were sporting big, heavy racks. Looking at them through my scope, I could count 14 points on one and 9 on the other.

A friend of mine, Bob McCormick, who is on the Lewistown police force, had told me he had seen these deer earlier while he was hunting groundhogs.

When the two bucks left the field they traveled up and over the top of the ridge. At this point I lost sight of them. Now that I knew which ridge they were bedding down on, all that was left to do was find a good stand along the trail.

Between scouting trips I had been practicing shooting from different positions. This is the time when the archer has to prepare himself for that one big moment that will bring the hunt to a climax, one way or another. If he wants to end up with a trophy, he can increase his chances considerably by practicing with the bow and spending as much time as possible out in the mountains and woodlands learning the habits of the deer he's after. Another important thing is

to be careful of where he places his stand. It has to be located so it will not cause the deer concern. Nothing will draw the deer's attention quicker than having something suddenly appear along the trail that wasn't there before. The forest is their home and it doesn't take them long to detect something out of the ordinary, just as you would notice a new chair in the middle of the living room.

The pre-hunt also helps to get the bow hunter into better mental condition. Imagine yourself in any type of hunting situation and your best judgment tells you that now is the moment for the shot. From that instant, when you begin the draw, there must not be any hesitation while you take time to admire your quarry, because that little pause might be all he needs to catch you with a half-drawn bow. A deer can stare at you longer than you can hold the draw, so what usually happens is a hurried shot, a spooked deer, and a hunter with a case of the shakes and a few choice words at himself.

Another thing is to make sure you have a good set of brush buttons on your bowstring to eliminate as much noise as possible when you release your arrow. The noise made by the slap of the string on the bow travels faster than the arrow and therefore gets to the deer first, often resulting in a missed or wounded deer.

These were some of the things I had been preparing myself for all summer, because I didn't believe I could be lucky enough to just grab my bow and head out on the hunt blindly and get a chance at a trophy such as I was after on the first day of 1968 archery season.

A Little Nervous

As I turned off the highway, the headlights of the car caught a rabbit as he scurried to cover in the high grass along the road, and a little farther on two does were standing on the road. I couldn't help but be a little nervous, knowing this was the day I had been preparing for the better part of the summer.

After getting my equipment ready—a 48-pound custom-made bow and Bear magnum aluminum arrows with Bear razor head points, I started up the ridge. Not wanting to take the chance of spooking the deer should they have finished feeding and be already on the way to their bedding grounds, I decided to meet the trail at the point



THE MOUNTED HEAD helps bring back memories of the hunt to Gross, who twice trailed down the buck after placing his arrows.

where I had my stand situated. It was a cool morning, probably in the lower 50's.

As I sat there waiting, the forest became alive with sounds; squirrels barked here and there and every once in awhile one or two would come within a few yards of my stand.

The longer I waited the more I became aware of a consistent noise not more than 10 or 15 yards from me. A few patches of laurel hid whatever was making the noise, but after awhile I spotted a groundhog. Then I heard some shotgun shooting and a dog started barking down in the thicket below me. I had no idea what they were shooting at, but I knew that I might have my whole day ruined if they spooked the deer off the ridge.

I waited perhaps another half hour. All was quiet except for the rummaging of the groundhog. Then the dogs started barking again as if they were chasing rabbits. I figured that any deer around would be long gone now so I decided to shoot the groundhog. As I leveled my arrow the groundhog dropped to all four feet and spun around to look out along the ridge. I didn't hear a sound but knew that the groundhog heard something, so I looked up and all I could

see at first were antlers. Then the tremendous bodies came into view.

The moment was fast approaching when I would find out if all the scouting during the summer would pay off, for heading toward me on the trail were two of the five big bucks that I had for two months been scouting.

I couldn't even move because they were on top of me in no time at all. In a matter of seconds I realized that the 14-point was on the downhill side of the 9-point and I would have to settle for a shot at the smaller one.

By now they were within 15 or 20 yards. I held for the chest cavity and released the arrow. I could see it penetrate to the fletching and there was a dull thunk. Both deer turned in their tracks and headed back the same way from which they had come.

At this point, even after watching these two magnificent animals all summer, I still got the shakes, realizing that if I kept my head and could wait at least three-fourths of an hour, I should have no trouble finding my trophy because I knew that I had a good shot in a vital area.

After putting in the waiting period—an awfully long 45 minutes—I started trailing. After about a hundred yards, I still hadn't found any blood. From the way the leaves were kicked up I could see they were heading down to the thicket where a stream runs through. I found where both deer had crossed the stream into a stand of ash and sumac. I figured that if I could circle around in front of them, I might get another shot. There was one spot where they might come out if they kept going in the direction they were headed.

The Second Arrow

About 10:30 the wounded buck came out to the stream and crossed within 15 yards of me. My second arrow hit within a few inches of the first. The buck crashed through the thicket and up the ridge again.

I began to believe I might not get this deer after all. It just didn't seem possible that any deer could stand up under the punishment he took from those two arrows!

I decided to wait a little longer this time because I knew where he went in and I could see if he tried to come out through the fields on the other side. I figured if I waited an hour it would give him time to lie down.

A trail ran parallel with the ridge and

Where Is My Reply?

Many individuals each month are disturbed because the Game Commission did not answer their inquiries. There is a reason for unanswered mail. The greatest problem is that it's often impossible to read the writing. Print name and address. Many fail to include their street address and city. Print complete return address and name on letter and envelope. Do not send cash. Enclose money order or check.

If you have not received a reply to a letter, one of the problems mentioned above is probably the reason.

I figured this would give me a good vantage point from which to scan the side of the ridge. Maybe I could locate him before he saw me. After about an hour of trailing I spotted both deer standing together. The wounded buck wasn't very steady on his feet. I crawled on my hands and knees to within about 20 yards and shot him again. This time he went down for keeps. The other buck ran about 50 yards and stopped to take one last look at his fallen friend. This is like most other stories because the big one got away again!

At first I didn't realize the true size of the one I did get. I've had to drag quite a few deer out of the woods, but when I tried to move this fellow I knew I had an unusually large deer. I finally managed to get the deer near the road, where I left it until I walked about a mile to get the car. When I got back and tried to get the deer into the trunk, it was no use! I couldn't even begin to lift it. Then I remembered an old formica table top I had seen along the old road. I went to get it because I had an idea that if I could get the deer up on a small bank I might be able to roll it into the trunk. It worked perfectly and the buck rolled in just right. It didn't have what you could call an enormous rack, but the massive neck made it quite difficult to arrange it to fit in the trunk.

By now I was exhausted and it sure felt

good to get behind the wheel and head for home. Of course, there would have to be a few stops along the way to show the deer off. I stopped at the home of a friend, Carl Goss, and he said it was the biggest deer he had ever seen and that the heart was as big as a beef heart.

The next stop was at a lunchroom where some of my buddies were passing the afternoon while waiting to get back to their deer stands. One of them noticed blood on my boots and asked me if I got one and if it was a nice one. When I said it would probably weigh close to 200 pounds, everyone gave me the old horse laugh. So out to the car we all went and the looks weren't as skeptical as before when they felt how solid the buck was. There wasn't a bit of fat between the hide and the meat; the only fat was on the inside of the deer and most of this I removed when I dressed the deer.

The next stop was Coble's frozen food plant in Lewistown, to see just how much

it did weigh. It took quite awhile to get the hangers arranged high enough to keep the buck's head off of the floor. When the weight of the hangers was deducted, I found out that I had guessed the weight within 4½ pounds; the scales showed it to weigh 204½ pounds.

Weight charts indicate this deer probably weighed close to 250 pounds alive. With the help of District Game Protector James Moyle, I found out that this could very well be the heaviest bow-killed buck in Pennsylvania with a verified field-dressed weight.

Elsworth Dixon of Mount Union killed an outstanding buck in 1965 which is currently number three in Pennsylvania's archery records. It weighed in officially at 201½ pounds. It also was taken in Mifflin County.

During the 1969 season, I scored with a nice 8-pointer and am anxiously waiting for the 1970 season to roll around. Perhaps I'll be lucky again.

Book Review . . .

Home Gunsmithing Digest

With many millions of gun users in the country, and the American's well-known tendency for tinkering, it's understandable that countless shooters also try their hand at gunsmithing. Or what passes for gunsmithing among people who don't know any better. Guided by this new book, the output of countless basements should improve considerably in quality. Tommy Bish, a practicing gunsmith who writes for "Gun World" magazine, has put together 46 well-illustrated chapters with such titles as "What Constitutes Custom?" (in which he sets forth his own ideas, some being a touch gaudy for my tastes, but worthwhile reading), "A Bedtime Story" (which covers the techniques of glass bedding), "Burred Heads and Bird Brains" (in which the common screwdriver—the tinkerer's anathema—is explained), and "A Whack at the Gun Quack" (which gives suggestions on how to tell a gunsmith from a gunbutcher). There are going to be times when the dope in just one of these chapters is going to be worth more to the reader than the whole book's cost. (*Home Gunsmithing Digest*, by Tommy L. Bish, ed. by Jack Lewis, Gun Digest Co., 540 Frontage Road, Northfield, Ill. 60093, 1970. 320 pp., paper-bound, 8½ x 11, \$4.95.)

But What's the Significance?

The female burrowing owl lays its eggs in the shape of a horseshoe, the clutch numbering from six to seven eggs.



THERE SEEMS TO BE some sort of disagreement between the above hunter and his dog, but we don't know why. After all, they have a limit of grouse.



AND THERE'S NO use being sore because the hound has pulled the tail feathers out of your rooster; you do have the bird! The young fellow below hasn't got his first one yet—but he's close.



THE NICE THING ABOUT hunting is that if he flies instead of running, you can shoot him.

It's Hunting Time

NOVEMBER IS THE MONTH when the full swing in Pennsylvania hunting begins. The condition and weather combine to make it a great time for hunters and get them all in the field. Bowmen, squirrel snipers, duck hunters have been out for weeks, and many Keystoneers are reluctant to wait until the eleventh month. But now it's the time to go—ringnecks, rabbits, geese, ducks, geese, shorebirds, woodcock, and many more. So get a shooting buddy.





g pheasants in corn stubble is, get a clear shot.



JIM BALES, right, of New Castle, with 18-lb. gobbler he took in Forest County in 1970's spring season.



n' Time

TH when hunting gets into . This is the time when tra-
p excite the majority of our
the field. The specialists—
shooters, grouse gunners—
maybe months, already, but
to begin hunting before the
ere, and a variety of game
use, turkey, quail, squirrels,
cock, doves. . . . All can be
but take the time to hunt
your dog, and go.



HOUNDS ARE A GREAT HELP on rabbits, even if you have to retrieve them yourself, and squirrels too provide sport, but for tougher huntin', try pheasants with the bow.





FIELD NOTES



That'll Teach Him

CUMBERLAND COUNTY—While out on the golf course last week, Deputy Frank Bowersox heard an awful commotion coming from a nearby tree. Upon investigating he observed a gray squirrel with a 3½ foot black snake clinched between its jaws and shaking it. The squirrel then dropped the snake from the tree, scampered down the trunk and again pounced upon the bewildered and dazed snake.—District Game Protector J. P. Filkosky, Mechanicsburg.

He Was Wrong!

ROSS LEFFLER SCHOOL OF CONSERVATION—While on patrol with a Waterways Patrolman he stopped to check a fisherman's license. The fisherman handed the patrolman a New York fishing license, whereupon the patrolman asked to see his Pennsylvania license. The fisherman said he thought that his New York license was universal.—Trainee Dennis E. Jones.

Unusual Deaths

CRAWFORD COUNTY—On August 31, I was summoned by the Linesville police to investigate some 25 or 30 sparrows that were found dead in the driveway of a Linesville resident. The birds were found under an automobile and no marks could be found on them. Investigation showed that many birds roost in a maple tree beside the driveway and there was a severe rainstorm the evening before. The birds had become wet and were blown out of the tree and went under the nearest protection, which was the auto, and perished there.—District Game Protector L. V. Haines, Linesville.

The Straight Dope

VENANGO COUNTY—Deer season will soon be upon us, and the hunters who head north across Interstate 80 in search of "Trophy No. 1" will find a fine selection of bucks in the small farming country north of Franklin. Nice-sized bucks are showing up in large numbers. The hunter who spends the extra travel time to reach the northern section of the county will find plenty of farm-fed deer near State Game Lands 96. Near Routes 417 and 428 above Franklin are prime hunting areas that are continually underharvested. Besides the excellent hunting opportunities, you'll be doing the farmers in the area a big favor. Ask permission if you want to hunt on private land, of course.—District Game Protector L. C. Yahner, Franklin.

This Is the Question

LANCASTER COUNTY—This ecology kick is really something. I got the most unusual question that I have ever gotten the other day. The caller asked, "What is the fine for killing a praying mantis?" He was dead serious too.—District Game Protector J. P. Eicholtz, Strasburg.

Brood of Grouse

CLEARFIELD COUNTY—Deputy Carl Sandy reports that he recently had to play traffic cop when he came upon between 35 and 40 grouse milling about on a road just outside the city limits of DuBois. Waving his arms, shouting, and barking like a dog, he was finally able to "shoo" all the birds into the woods without a single casualty. A family reunion was the only explanation he could give to curious passersby. — District Game Protector G. J. Zeidler, Rockton.

A Start Back

DAUPHIN COUNTY—I recently made a survey of the reclamation work being done on State Game Lands 264, just north of Wiconisco and Williamstown in Dauphin County. It is amazing to see the amount of strip and deep mines that have been back-filled by Troutman Brothers, who are working for the Game Commission and the Department of Mines. Hundreds of acres that were barren pits surrounded by high banks are now either food plots or are planted with seedlings. In time this Game Lands will be a showplace to prove what can be done to those parts of our state which have been ravaged by coal companies.—District Game Protector S. L. Opet, Millersburg.

More on Eagles and DDT

WAYNE COUNTY—The August issue of *GAME NEWS* carried a Field Note on the presence of bald eagles in my area. Mention was made of DDT in the fish in the river relative to studies made by federal agencies. Never have I received such mail—not concerning the eagles, but on various insecticides. Most letters were for the abolition of these materials, but some were very much in favor of their continued use. Some literature was received (author's name and source not included) which cited alleged cases of the relatively harmless effects of insecticides to fish and birds, not to mention mammals. How now, brown DOW?—District Game Protector F. G. Weigelt, Galilee.



Brrr!

ALLEGHENY COUNTY—An old-time saying relates that if the front end of a woolly caterpillar has more black than the back end, the winter will be hardest at its start, and vice versa. If that's true, we'd better dig out the long winter undies, because all of the woolly caterpillars I've seen this fall have been all black, and it's going to be a long cold winter.—District Game Protector R. B. Belding, Baden.



Meet Mr. Clean

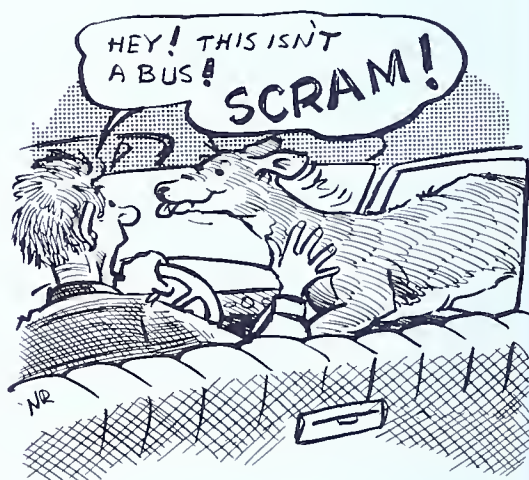
ROSS LEFFLER SCHOOL OF CONSERVATION — How many showers have you had today? This trainee had a few on August 19: 6:30 a.m., No. 1—in the shower after physical exercises; 10:00 a.m., No. 2—drenched in a downpour on a tree study hike; 10:30 a.m., No. 3—in the shower after peeling off dripping clothes; 11:30 a.m., No. 4—while fighting a fire in a Game Lands building; 12:00 noon, No. 5—in shower after fire fighting completed; 2:30 p.m., No. 6—caught in another shower on afternoon tree identification; 10:00 p.m., No. 7—in the shower at the end of the day.—Trainee James F. Ramsey.

Tasty Tidbits

LUZERNE COUNTY—I recently assisted sportsman Warren Hauze in picking some red beets from his truck patch for a neighbor. He said I shouldn't pick any from the one row, for they were too big for home use. He knew I was wondering why he hadn't thinned that one row out previously and soon looked at me and stated with a big grin, "That row is for the deer up at the cabin; they really love 'em."—District Game Protector R. W. Nolf, Conyngham.

Gotta Find 'Em

ADAMS COUNTY—In checking four good dove roosts, I found that the birds aren't using them to any great extent this year. The dove supply is plentiful, but I believe the birds are roosting in small numbers in the many orchards in the area, and thus not affording good shooting.—District Game Protector S. K. Weigel, Arendtsville.



Just Sore About Somethin'

VENANGO COUNTY—An Oil City man, Art Baughman, driving to work in Franklin, had the window of his station wagon down for some fresh air. Suddenly a deer jumped in the window and pushed Baughman across the seat to the other side. Fortunately, he kept his foot on the brake and stopped the vehicle. The deer fell back out the window and could not be found when the driver went looking for him. This would sound like a real hunter's yarn if Mr. Baughman didn't have a side mirror missing, deer hair in his car, a bruised arm and a perfect hoofprint of a deer in mud on his shirt and the same print, black and blue, upon his chest. It reminds me of that postcard they sell showing a deer driving a car and a hunter stretched across the fender.—District Game Protector L. E. Yocum, Oil City.

Welcome, Matt!

BUTLER COUNTY—I guess they are never too young to get the right start. At the Butler Farm Show we sold a subscription for *GAME NEWS* to Matthew Ferguson, age two weeks. The proud grandfather of the boy, who took out the subscription, also told me later that the notice that the boy will receive *GAME NEWS* was the first letter Matthew received by way of the U. S. Mail.—District Game Protector J. D. Swigart, Butler.

Advance to the Rear

MIFFLIN COUNTY—Quite a few hunters claim that the improvement in rifles and sights has taken something from deer hunting. They maintain there is little satisfaction in killing a deer with one of these “super-duper” outfits and they are purchasing muzzle-loaders to even the odds and try to recover the old “zing.”—District Game Protector J. D. Moyle, McVeytown.

Dessert, Maybe?

SOMERSET COUNTY — Four young fellows from the Confluence area were boasting they were “living off the land” for a week. Rough-looking and unshaven, they had already spent a few nights in the woods equipped only with fishhooks, a bow and arrow and a knife. They had eaten berries, fish and frogs. Their attempts to kill a groundhog with the bow had so far been unsuccessful. Sure would have made a good story if I hadn’t met them in the local drive-in restaurant eating ice cream and drinking Cokes before returning to the “wilds.”—District Game Protector D. C. Snyder, Meyersdale.

But What’s a Drumfish?

YORK COUNTY—I recently received a call from a farmer friend asking me to come to his farm right away. Upon arriving, he said he had just cut a hayfield and found the bones of five deer he believed were illegally shot. Upon checking the bones, I informed him they had come from some very large fish. He found this hard to believe and did not know how they got in his field. Three weeks later the story came to light. Some friends of his father had been fishing last spring and had caught five large drumfish. They cleaned them and put the remains on the manure spreader, and they eventually ended up in the field. We still give this farmer “A” for his interest in law enforcement and conservation.—District Game Protector R. L. Yeakel, Red Lion.

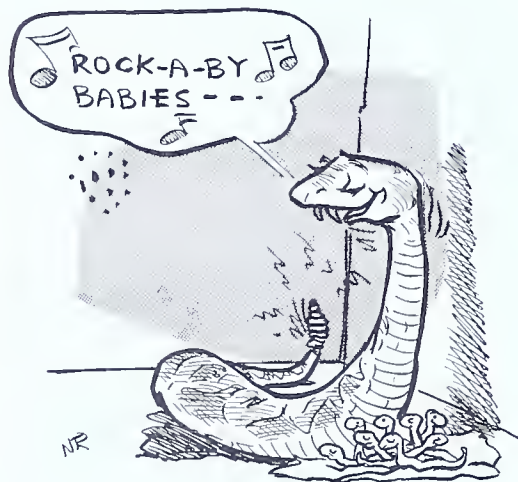


Just Be Patient

BLAIR COUNTY—Since I have been in Blair County, I have had three people report seeing mountain lions and one person who insists that he saw and chased a wolverine. Now I’m waiting for a report of a road-killed moose.—District Game Protector J. A. Lukas, Hollidaysburg.

Some Summers Are Like That

CRAWFORD COUNTY—This just hasn't been the summer for Deputy Whitlatch. A few weeks ago he stepped in a live beaver trap and received a bruised leg. The other night while on jacklight patrol, some type of night-flying bird struck him in the face. His fellow deputies told him that he was fortunate that it was not a bat and that it did not break the skin. If it had been, they would have to keep him tied up for six weeks.—District Game Protector J. R. Miller, Meadville.



Did You Leave 'Em in Dayton?

ARMSTRONG COUNTY — The snake exhibit at the Dayton Fair drew large crowds this year. It is always a big attraction, but this year it was titled Muir's Maternity Ward. On Monday evening a rattlesnake was observed giving birth. Tuesday morning revealed 12 live babies and three dead ones. Tuesday evening another was moved to the delivery room and Wednesday revealed one new baby and five dead ones. Since the average litter is five to seven, it is felt that three different rattlesnakes delivered. The babies were on constant display with no special hours reserved for viewing. — District Game Protector R. H. Muir, Kittanning.

Hmmn . . .

CENTRE COUNTY—At a recent hunter safety course I asked if anyone could name the different type actions of guns. A young lady raised her hand and said she could name three. They were: fast action, slow action and flip top—the one that does it all by itself.—District Game Protector D. Sloan, Bellefonte.

Let's Hope Not

ROSS LEFFLER SCHOOL OF CONSERVATION — While assisting Land Manager Dave Brown check food plots on State Game Lands 208, in Potter County, we came across a gate to one of the food plots that had been chewed up by a bear. The gate was scratched up by claw and tooth marks, and several large chunks of wood were torn from the barricade. The log seemed to be solid and not containing insects, so what this bear had in mind is anyone's guess. Maybe the bears are learning these bad habits from some of our thoughtless hunters who willfully destroy gates and signs.—Trainee Telford Fox.

Corn Thieves

JUNIATA COUNTY—While on patrol one evening during late August, Deputy Bud Milliken of Honey Grove chanced upon an auto after dark in an isolated area. Investigation proved this to be a case of crop damage in a cornfield, but the damage was not caused by wild game. This cornfield was being raided by two persons who just figured they should help themselves to a trunk load of corn. With actions like this it is no wonder we observe more posted land each fall.—District Game Protector R. P. Shaffer, Mifflintown.



CONSERVATION NEWS



PGC Photo by Joe Osman

HARVEY GRAYBILL OF CAMP HILL, center, is Pennsylvania's 1970 turkey calling champion, following his win at contest held in August at the Franklin County Fairgrounds. He also was the 1968 winner. Other winners, from left, are Ed Leap of Hyndman, 3rd place; Chester Lesh, Ickesburg, 2nd place; Gerald Mills, Clear Spring, Md., top out-of-state caller; and Don Shope, Marietta, 4th place. About 1000 persons attended the contest.

\$200,000 in Game Fund for Local Governmental Units

More than \$200,000 will be distributed to county treasurers and political subdivisions by the Pennsylvania Game Commission in 1970. The payments to local units will be made in lieu of taxes for State Game Lands located throughout the state. There are more than one million acres of Game Lands in Pennsylvania. The Game Commission provides 20 cents for each acre of Game Lands to local governmental units. Of the 20 cents per acre, eight cents is forwarded to the county, another eight cents is presented to the local school district, and the remaining four cents goes to the township board of road supervisors. Funds for the payments are made available through the sale of Pennsylvania hunting licenses.

And Runs Fast

The average cottontail rabbit weighs from two to three pounds, measures about 13 inches in length, and has ears about three inches long.

Stop at a Deer Check Station



FOUR DEER CHECKING stations again will be in operation in Pennsylvania this year, according to Dale E. Sheffer, Chief of the Division of Research.

Information collected at these stations is valuable in improving deer hunting in the Keystone State. It is hoped that every successful buck hunter who can stop at one of these

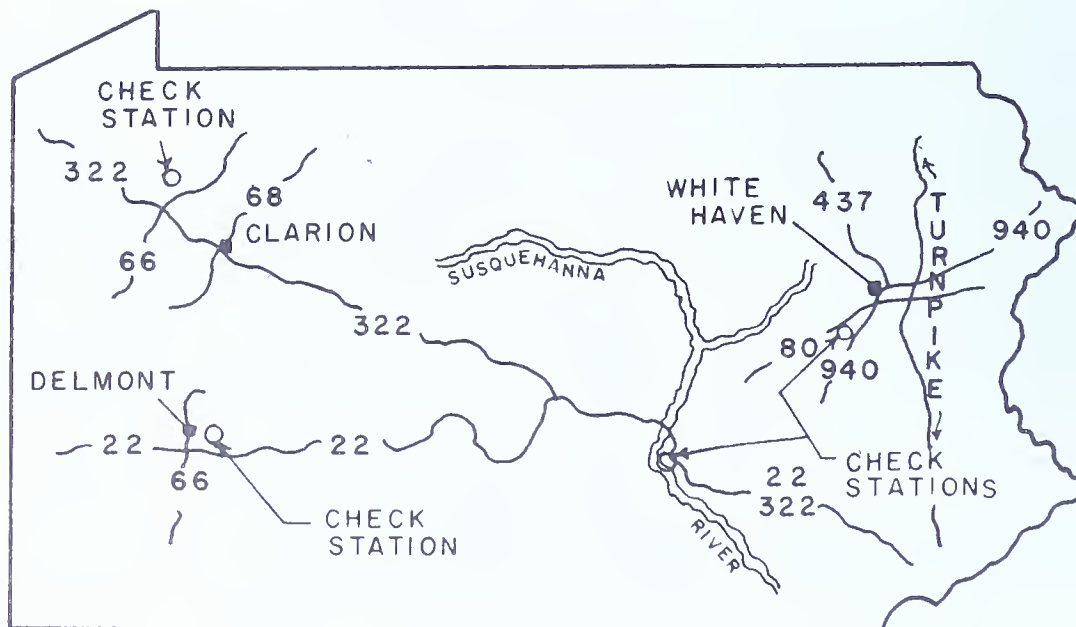
stations will do so. Data assembled through examination of these deer reveals many facts to wildlife biologists—the condition of the deer herd in various regions of the state, the condition of the range, etc. This is vitally important in helping the Game Commission set seasons and bag limits which provide the optimum amount of sport for the greatest number of hunters.

The four stations will be operated at least the first three days of the antlered deer season, beginning November 30.

Successful hunters who stop at a check station will see how the age of their trophy is determined.

The northwest station is located on Route 66, about three miles north of its junction with Route 322, on the road to Lucinda. The northeast station is at the roadside rest on the eastbound lane of Route 80 about two and one-half miles west of White Haven.

The central station is 13 miles north of Harrisburg on Routes 22 and 322 just off the east end of the Clarion Ferry Bridge. The southwest station is near Delmont, on Route 22 just east of its intersection with Route 66.



The Deer That Help Hunters

By C. Robert Watts and J. S. Lindzey

IF YOU happened to see a buck deer wearing a harness and rope and leading a man around in the woods recently, you probably weren't having hallucinations. This was part of a study to determine forage preferences of white-tailed deer in the mixed oak forests of central Pennsylvania, conducted by the Pennsylvania Cooperative Wildlife Research Unit. In this study these deer are helping hunters directly by literally pointing with their nose to show what foods deer want and the time of year when they want them. This will mean that management to improve deer range can be steadily improved as we learn more of the specifics of deer needs.

To prepare for this study, the Wildlife Unit trained three captive deer fawns to accept a harness and lead on a rope. This enabled close observation of the foods they ate in the woods. During the study, the senior author recorded the time each deer spent eating the various kinds of plants on more than 150 trips to a study area. This wasn't just any area, but an area representative of the central Pennsylvania deer range.

This study also measured the amounts of the various plants (in pounds per acre) present on the area during each season of the year. With this information at hand, we knew the relative availability of the plants eaten

by the deer. We then made a list of deer food preferences by comparing the time the deer spent eating different kinds of plants or plant parts with the amount of that food known to be available. A plant eaten very little but present in large amounts ranked lower on the list than a plant also taken infrequently but present in only small amounts. Plants that the deer sought avidly and fed on frequently, but that were present in only small amounts, were highest on the list of preferred plants. We used this system of evaluation for each season of the year. Most of the 174 different kinds of plants eaten by the deer varied in importance to the deer during the different seasons.

Availability Important

Availability of food items was the most important factor affecting seasonal changes in diet (see table). During the summer the deer spent 94 percent of their feeding time eating green leaves, whereas in winter when green leaves were scarce, they ate them only 11 percent of the time. They ate twigs of various plants for 52 percent of the feeding time in the winter, but seldom ate them in other seasons. Acorns, available primarily in autumn, comprised 40 percent of their diet in that season.

However, deer chose some plants over others not because of their availability, but presumably because the plants taste better or are more nutritious. For example deer ate a lot of dry leaves in the winter even though they were not abundant. In early spring deer sought out sassafras, shifted to chestnut oak in late spring and summer, and to flowering dogwood in early fall and winter. In contrast, although blueberries and huckleberries formed dense mats on the

This is Paper No. 133, prepared by the Pennsylvania Cooperative Wildlife Research Unit at Penn State University. Dr. J. S. Lindzey is the leader of this unit, which works closely with the Pennsylvania Game Commission. The senior author, C. Robert Watts, a graduate student who took part in this investigation, is now a research assistant at Utah State University, Logan, Utah.

forest floor, they made up only a small part of the deer's diet.

It was interesting that during the periods when deer were permitted to range in the woods they spent only a fourth of their time actively feeding. Much of the rest of the time they watched, listened, or smelled objects of interest. Other deer, squirrels, man and, most of all, dogs drew the deer's attention. The deer would usually panic at the sight of dogs, particularly when they were in packs pursuing wild deer through the area.

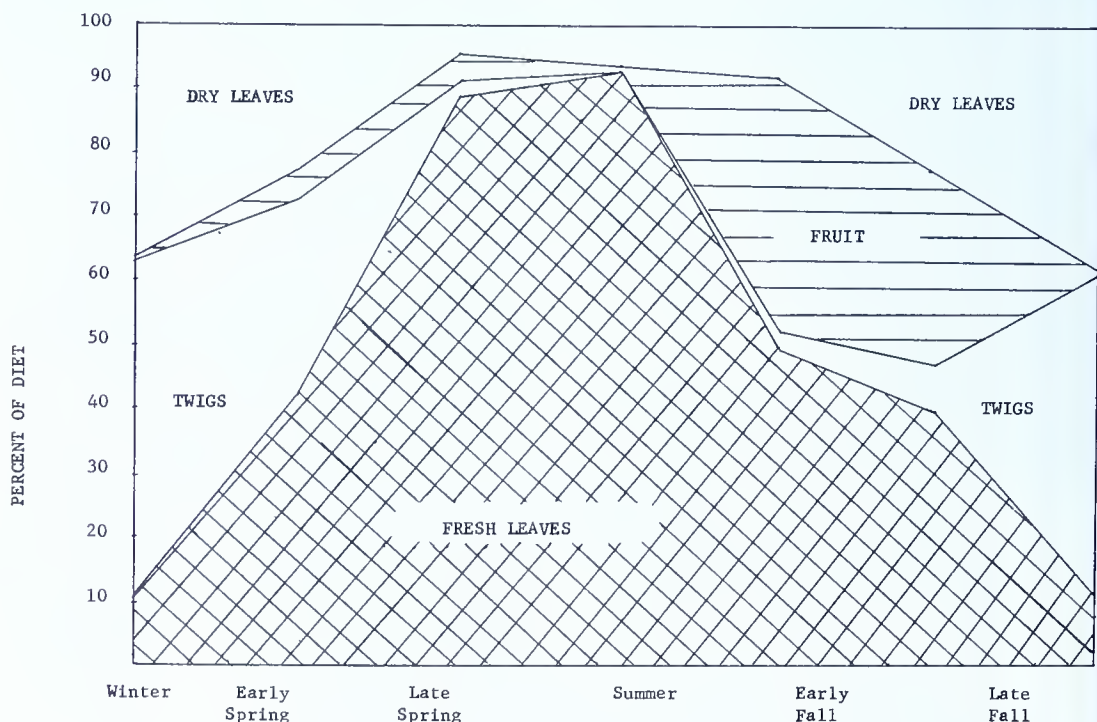
In the warm summer months the deer spent much time lying down, often using the same bed day after day. In other seasons, they fed for longer periods and spent little time lying down.

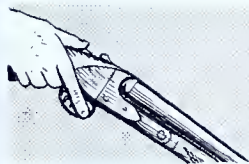
Winter was the only season when the deer followed particular routes while feeding. On most winter days, the deer took the same paths they had used previously, often eating from the same bushes. As new snow covered old trails they smelled the snow until reaching old paths and then would follow them as if the trail were readily

visible. In other seasons, the deer covered most of the area, sometimes crossing it several times during one observation period and seldom browsing along the same paths.

By watching what the deer ate, rather than basing conclusions about their food on what had been browsed off or what was present in stomachs of deer killed, it was possible to be more sure about their needs and desires. During the winter, deer in the mixed oaks of central Pennsylvania consumed dry leaves on the snow or hanging in low bushes. They preferred these leaves to the twigs (browse) that we had previously thought were their primary winter foods. This may be important to Pennsylvania deer management when considering browse cuttings. If cuttings are made in autumn, before the leaves drop off rather than in winter, both the amount and the availability of this type of deer food would be much greater. As food preference studies of the deer in various other forest types in Pennsylvania are completed, far more detailed deer management programs can be effected.

Seasonal Changes in Deer Diets





HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



DGP TOM BARNEY EXPLAINS proper sight picture to students.

To Be Seen or Not to Be Seen . . .

HOW SAFE is the bright colored clothing you wear? Consider this. No hunter has ever been shot in mistake for game in Pennsylvania while wearing fluorescent orange. Many have been shot while wearing other colors.

Pennsylvania's hunting accident reports for 1969 verify again that wearing fluorescent clothing while hunting makes the sport safer. Many states that have passed legislation requiring fluorescent orange to be worn while hunting have been impressed with the decrease in mistaken-for-game accidents. Massachusetts reports that since their law requiring deer hunters to wear fluorescent orange was passed

five years ago, they have not had a mistaken-for-game accident. Some other states which formerly required a minimum of 200 square inches of fluorescent orange while hunting have increased the amount to 500 square inches. Hunting accident statistics of all states have shown a significant decrease where compulsory hunter safety has been combined with the required use of fluorescent orange clothing.

Color was not a factor in 322 of Pennsylvania's 479 hunting accidents during 1969. These occurred when the victim's firearm accidentally discharged or was placed in a dangerous position, the victim was hit with a ricochet or stray bullet, a sporting



STUDENTS FIRE FOR RECORD under the watchful gaze of Hunter Safety Coordinator John Behel.

arm was used as a club, etc. However, it was a different story in the remaining 157 hunting accident reports. They revealed 5 victims were wearing yellow, 62 red, and 66 were wearing camouflage clothing, or no bright color. Victims mistaken for game included nine persons wearing red and 15 persons wearing no safety color. The value of orange is obvious.

Fluorescent orange, the safest color of all, is not being worn by enough hunters. It is interesting that 50 percent more small game hunters wear fluorescent orange than big game hunters. It is second choice of the small game hunter, while it is the third selection of the big game hunter. Despite the increased awareness of safety during big game season, the deer hunter apparently does not want to go as far as possible toward safety by wearing fluorescent orange. He wants to be seen by the hunter but feels he does not want to be quite so obvious to the deer. This

is a mistake, because movement, not color, is what catches a deer's attention, while movement does not always tell another hunter that his eyes are betraying him.

A field survey shows that 63 percent of the small game hunters wear bright colored clothing, with 54 percent wearing red, 6 percent fluorescent orange and 3 percent yellow. Big game season provided some indication of the increased awareness of safety, as 66 percent of the hunters wear red, 5 percent yellow and 3 percent wear fluorescent orange.

Studies have shown that the color deficient individual, and approximately 8 percent of the males are color deficient, can detect fluorescent orange but not the red or yellow which may be worn by the average hunter.

Are YOU wearing color for the hunter or for the deer? **WISE UP—BE SEEN—WEAR FLUORESCENT ORANGE!**

Color Worn By Victim	Fl. Or.	Yellow	Red	None	Total
Color Not Seen By Offender	—	5	62	66	133
Victim Shot For Game	—	—	9	15	24

A Five-Year Report on Pennsylvania's Grouse Hunting Survey—1965-1969

By Steve Liscinsky
PGC Wildlife Biologist

A STUDY OF grouse hunting in Pennsylvania was initiated in 1965. Its primary purpose was to measure the annual and long-term changes in shooting opportunity in various parts of the state. Flushes per hour constituted the basic yardstick for this measurement.

Grouse hunters were asked to keep records of flushes per hour by day and by county, and to submit this information to the Division of Research for compilation and analysis at the end of each hunting season.

The magnitude of the study and the extent of hunter contribution is indicated in Table 1.

More than half of the approximately 300 hunters contacted annually responded to the request for information. On the average, respondents spent 6,620 hours hunting to flush 10,489 grouse annually. Over the five-year period the statewide average flushing rate was 1.58 birds per hour. A county by county listing of the five-year average flushing rates is presented in Figure 1.

In analyzing this data it becomes obvious that flushing rates are not at all consistent or uniform throughout the state. There are variations from year to year within and between

counties. Nevertheless, a general picture of hunting conditions does emerge. For example, it is quite evident that the "big woods" country of northeentral Pennsylvania and the Poconos region have been the poorest hunting areas, and the mixed farm and woodland areas have been the best. Generally speaking, grouse hunting is considered poor when the flushing rate averages less than one per hour, fair when it is between one and two, good when it is two to three, and excellent when it is over three per hour.

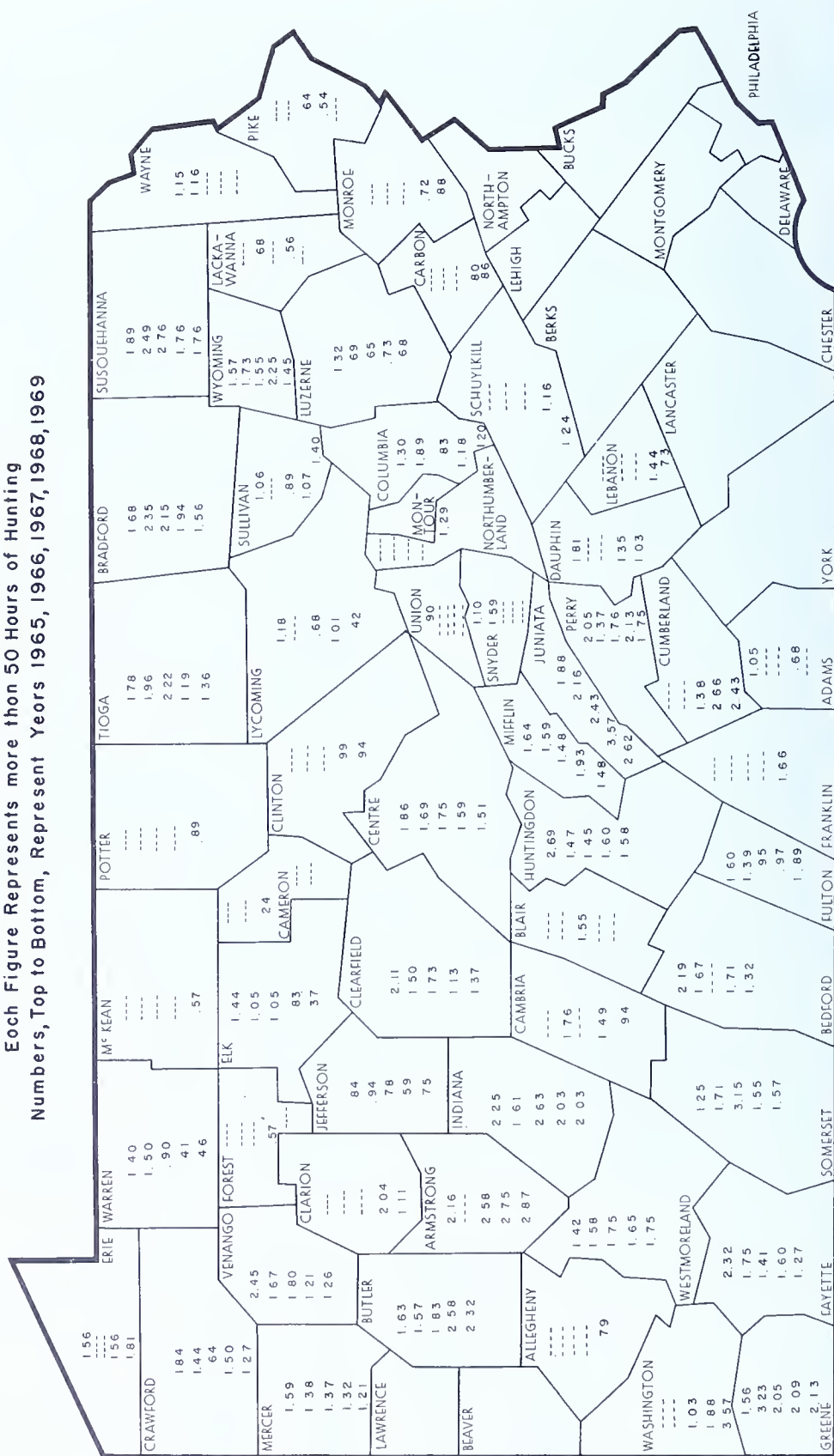
In addition to establishing a base line for comparing future grouse hunting, this long range survey (which should continue for at least another five years) may show trends in populations. Some indication of trend is already apparent. The two years just prior to the beginning of this survey (1964 and 1965) showed grouse populations in the Poconos were high. In 1966 and 1967 they hit a low. The 1968 and 1969 data shows a gradual recovery. These long range fluctuations appear to occur even in areas of good habitat such as in the Poconos.

On the other hand, where grouse habitat is lacking or limited, as is the

TABLE 1
PENNSYLVANIA GROUSE HUNTING DATA—1965-1969

Cooperators:	1965	1966	1967	1968	1969	Avg.
Contacted	320	246	290	298	315	294
Responding	60%	51%	43%	63%	71%	58%
Recording	55%	48%	40%	57%	64%	53%
Hours Hunted	8,018	4,856	5,110	7,451	7,664	6,620
Flushes Recorded	13,057	7,191	8,470	12,008	11,720	10,489
Flushes Per Hour	1.62	1.48	1.66	1.61	1.53	1.58

Annual Average Number of Grouse Flushes Per Hour
Each Figure Represents more than 50 Hours of Hunting
Numbers, Top to Bottom, Represent Years 1965, 1966, 1967, 1968



case in our large areas of pole-size forest (four- to eight-inch diameter trees), grouse densities remain low for long periods of time; i.e., until the habitat is changed. Where forests are small and broken up into various size classes and separated by clearings or small farms, grouse populations tend to be higher. There is no escaping the value of proper habitat.

Annual fluctuations of flushes within a county also reflect nesting conditions and brood survival. This can be, and often is, the most important factor in governing grouse populations. It follows that these fluctuations are evident even in areas of high population densities and suitable habitat.

Numerous comments were received on hunters' reactions to "early" (late October) and "late" (after Christmas) seasons. Some favored early, some late, some both and some neither. There was no consistent pattern. Too many leaves and too much snow were the most common objections given to the early and late seasons. To shed some light on these observations, and to compare facts, the 1966 cooperators were asked to record the number of flushes they shot at, in addition to the usual data. This information is in Table 2.

Ninety-seven percent of the hunters

went afield during the regular season, 85 percent during the early season, and 56 percent during the late season. This is about what you would expect, but let's look at it another way. In terms of hours hunted, in relation to hours available, the data showed that, barring very adverse weather conditions (which did not happen in 1966), grouse hunters took about equal advantage of the time available in each season; that is, 10 to 12 percent. Flushing rates and percentages of grouse shot at did not vary significantly between seasons. If any trend is evident it is one of increasing flushing rates from early to late season. The percentage of flushes shot at during the various seasons was even more consistent—32 percent in each.

A continuous record (10 years on one sheet) of flushing data is being kept for cooperators who hunt grouse more than 25 hours annually. Each of these cooperators will receive a copy of his own data periodically, or upon request. One's own progress, good or bad, can thus be followed, and perhaps enable him to improve his efforts. At the very least, in 10 to 20 years one can look back on the facts and say "those were the days my friend"—good or bad. Let's hope all the days ahead are good or better.

TABLE 2
GROUSE HUNTING DATA — 1966

Season	No. of Hunters	Hunting Hours Available	Hours Hunted		Flushes Per Hr.		Flushes Shot At	
			No.	%	No.		No.	%
Early (Oct. 15-28)	100†	12,000	1322	11	1939	1.47	632	32
	50‡	6,000	691	12	1146	1.66	365	32
Regular (Oct. 29-Nov. 26)	114†	28,500	2747	10	3942	1.44	1260	32
	50‡	12,500	1230	10	2052	1.67	647	32
Late (Dec. 26-Jan. 7)	66†	7,920	787	10	1310	1.66	430	32
	50‡	6,000	669	11	1128	1.69	358	32

†=All Cooperators Who Submitted Usable Data

‡=Fifty Cooperators Who Hunted All Three Seasons



Is Winter Camping for You?

By Les Rountree

A LOT MORE people would go camping in the winter and late fall except for one thing . . . it's too cold! Oh, sure, we can keep warm when we're moving around, but when we come back to that cold camper or tent and want to peel off some clothing, how do we stay warm before we climb into the sleeping bag? If you're equipped with a deluxe modern pickup camper or trailer, the problem is solved with the built-in propane or gas furnace. In the tent or pop-up camper it's solved too . . . with the addition of the catalytic heater.

These things have been around for quite a few years, but it's surprising that so few people are using them or even own them. I think that it's probably because we read of several cases each year where a camper has failed to provide for adequate ventilation in his tent or camper and near asphyxiation or death is the result. I'll be quick to point out I've never known of such a case involving a catalytic heater. In fact, it is doubtful if a person could suffocate through the use of a cat heater unless he made a conscious ef-

fort to do so. The cat heater uses very little oxygen and with a minimum of ventilation no problems should occur. Nevertheless, you should, of course, have some ventilation.

The proper use of a catalytic heater can add months to your camping pleasure and for the hunter who wants to use a tent, it's almost a necessity. While the smell of wood smoke is pleasant in the right quantity, an overdose is more than enough.

When I was a kid in northern Pennsylvania, I spent some time during one particular deer season in an old Army wall tent that was equipped with a blued-tin wood stove. The stovepipe went through a hole in the end of the tent that was reinforced with a piece of galvanized metal. During the four days I stayed in that camp, the climate inside was either too hot, too cold or too smoky. (We all agreed that it was fun, however.) The smokiness was solved by removing 10 years' accumulation of pine pitch from the inside of the pipe, but no matter how hard you try in a tent, a wood stove will be very hot one hour and very

cold the next. I'll admit that you can't back your hind side up to a cat heater with any degree of satisfaction, but it will keep your tent or camper at a fairly even temperature.

The catalytic principle of heat is flameless combustion of fuel fumes in the impregnated burner head. The fuel tank is heated to create fumes for this combustion. To start this process a small amount of alcohol or white gasoline is poured on the asbestos head. Heat radiated downward to the tank heats the fuel and continues to generate. There is no flame except when you first light the head. This burns out in a few minutes and you're ready to go. Cat heaters are explosion-proof and can even be refueled while they are in operation. There are no poisonous fumes. The brochure with my heater says that it oxidizes over 95 percent of its fuel. In simpler terms, there is not much solid waste material going into the air.

Sold on Cat Heaters

There's no question about it, I'm sold on the usefulness of cat heaters, but I have one complaint. Why do they always have to make these things in a round configuration? Why not a rectangular one? It would pack a lot easier and could be just as effective. In fact, while we're on the subject, why do so many things have to be round? A square vacuum bottle would not roll off the table if it fell over, nor would a square flashlight roll around when you aim it at something important. Better watch out or I'll give someone a million-dollar idea.

We talked about long-handled underwear awhile back in this column, so we won't mention it again except to

say that any late fall or winter camper who sallies forth without a suit is inviting frostbite. If you expect to be exercising extensively during the day, you may not need it. However, for climbing out of the sleeping bag on a chilly morning, nothing beats slipping into a suit of the quilted jobs. Most of these suits have a sa-



CATALYTIC HEATER makes a tent comfortable in cold weather, is easy and comparatively safe to use, but some ventilation is needed.

teen or nylon outer covering and the sudden cool shock can be quite a sensation. To avoid this, pull the underwear into your bag for a few minutes before you put it on. Your body heat will make it quite comfortable. Of course, if you sleep in the longies, the problem is solved.

Extra shoes and socks are a must for winter camping. Take several changes of heavy and light socks and at least one extra pair of boots. If you expect to be hunting, snowmobiling, snowshoeing or just tramping around, you're bound to get your feet completely soaked at least once. A clean pair of socks and dry boots can greatly improve your mental state.

There is a certain group of tradition-bound American outdoorsmen who will always wear wool when temperatures start to drop. Wool shirts,





GLOVES ARE A NECESSITY for cold weather camping, the exact style depending upon the use to which they'll be put.

jackets and pants are becoming more sophisticated each year and they certainly are more handsome than they used to be. There was a day when red-and-black plaid was the only color combination available. Don't get me wrong, I still like wool for some clothing items, but for lightness and warmth, it's impossible to beat the great insulated outer clothing that is offered today. Some of the rather inexpensive quilted garments that every store carries are usually good values.

The cream of outdoor garb is the down-filled merchandise. For the active camper or hunter, the difference between carrying five pounds on his back and 15 ounces is an important one. When rain or wet snow is falling, some wool coats become loaded with almost their own weight in water. The water-resistant nylon shell that holds quilted down together absorbs very little water and dries out quickly too. The initial investment involved in a down-filled garment or sleeping bag is higher than that of most other materials, but over the long haul it proves to be well worth it. The editor of this magazine, for instance, has a down-filled jacket that must be nearly old enough to vote. It's still

going strong and, at last report, he had no intention of trading it in on a new one.

Since we use our hands more than any other part of our anatomy, they are subjected to touching a lot of cold objects during a winter camping or hunting trip. Gloves are important . . . far more important than many outdoorsmen realize. The hard-headed man who says his hands never get cold is that same guy who huddles around the fire all night trying to thaw out. Once something gets *really cold* during a winter outing, it takes a long time to get the chill out. For winter sports that don't require the delicate use of a finger, nothing beats mittens. It is a fact that hands are warmer when the fingers can help keep each other warm.

Buckskin Tops

For hunting, putting up a tent or camper, or any other activity that requires the dexterous use of fingers buckskin gloves are just about tops. The soft flexible "give" of deerskin acts like a second skin and a good fitting pair lasts a long time. If it isn't wet, deerskin is surprisingly warm down to about 20 degrees. Some people wear them in much colder weather than this but I'm a little more sensitive to cold. For really cold weather hunting and camping, I like the mittens that have a palm slot for all four fingers. This arrangement allows the use of the fingers when you have to have them and the "wiggling" room of a mitten to warm them up again. In these items I prefer a wool shell with a leather facing.

All-wool gloves are okay if you won't be using your hands much. When dry they make handling smooth metal objects almost impossible, and when wet I find them uncomfortable. I'd better be careful, the wool grower might start throwing rocks at me. As I said earlier, however, there are some winter uses for which wool is ideally suited, and socks is one of them. A good pair of 80 percent wool sock

is unbeatable for winter use, and I wouldn't think about going camping without a pullover wool sweater that my mother-in-law made for me.

Like the down-filled clothing, a sleeping bag insulated with the same material is almost a must if you're going to be sleeping in anything less than an insulated camper. In a tent or one of the pop-up jobs, down is the only material that will keep you warm on a night that hits 10 degrees or below. Unless you're on a cot, an air mattress or sponge rubber pad is also a requirement. Cover the pad or mattress with a wool blanket because you're bound to get colder on the bottom side than you will on top.

Pile Up Snow

Cold air has an insidious way of creeping in from the bottom and it's a good idea to seal off the lower edges of a pop-up camper or trailer during a winter trip. This can be done with tarps or sheets of heavy duty plastic. Several degrees of heat can be saved by doing this. The same kind of insulating jobs can be done by piling snow up around the base of the camper. If you happen to be using a tent, snow can be used for insulation here too. Don't pack it too tightly, since air pockets are what keeps the heat in and the cold out.

The gear is available today to make winter camping much more pleasant than it used to be. The "tent" deer camps of 30 years ago seem like something out of the Stone Age when comparing them to today's snow time outing. Make no mistake about it, the old-timers who have seen this much time go by appreciate, and are using, the latest cold weather gear. They



WOOL SWEATER AND SOCKS, underwear insulated with man-made fibers, goosedown jacket—such top-quality items make winter camping easy.

suffered through the wood stoves and the pinned-together blankets and are the first to admit that camping at any time can be more fun now than it ever was. There were some nice things to say about the "good old days" but eamping comfort was not one of them.

I've mentioned before that I'm a little bit worried about the trend to camping "cities." I think that we need more eamping areas but not necessarily larger ones. Being a gregarious camper is one thing, but being thrust into a metropolis of tents and trailers is something else. More people will be camping during the years to come but they might be enjoying it less. Winter eamping, if it becomes more popular, might take the edge off the summertime rush. If your leanings are more on the side of solitude, a winter trip may be your thing.

As with all forms of outdoor activity, don't rush into it blindly. Assemble the gear and try it out on your lawn. In case it all becomes too unbearable you can chicken out at two in the morning and come inside. I'm a strong believer in making test runs on all outdoor equipment. The knowledgeable rifleman would never think of going hunting with a gun he hadn't

Give

GAME NEWS

To a Friend . . .



IN COLD WEATHER the upland hunter will find hard-finish outer clothing worn over longjohns will provide protection in all normal temperatures.

tested and sighted in first. The fisherman always makes a few practice casts on the lawn before assaulting the local waters. The intrepid souls who have made climbing high mountains a career test their equipment for months and sometimes years before making the big plunge.

Once the equipment decisions are made and you have your first winter camping episode under your belt, you'll feel an immense sense of accomplishment. You've accepted one of nature's most severe challenges and I'll bet that if you have any pioneer in your heart, you'll love every minute of it. The big crowds will be gone, that's for sure, but the *other* campers you meet during the winter will be interesting people. Winter camping is not for everyone, but for those who can accept some minor handicaps . . . it adds a brand-new dimension of outdoor fun, makes you feel as if you belong to that almost legendary group of outdoorsmen who make up an integral part of nature itself.

Game Commission Approves Budget, Buys More Land

The Pennsylvania Game Commission, meeting recently at its Training School near Brockway primarily to study the 1971-72 budget request, approved a budget of \$12,157,272 for that fiscal year.

Action was taken to open Commission meetings to the public starting with the January, 1971, meeting to be held in Harrisburg. Additional information will be made available prior to the meeting date.

The Commission also approved purchase of an additional 806 acres of land to be used for public hunting and recreation. Tracts to be acquired are in Armstrong, Bedford, Berks, Blair, Cambria, Greene, Lebanon and Lycoming Counties.

In other action the Commission revoked the licenses of 114 hunters for infractions of the Game Law and restored license privileges to five individuals.

People Everywhere

A record 16,309,072 visits were made in 1969 to the 326 national wildlife refuges in the United States.

The Well-Equipped . . .

Bow Hunter

By Keith Schuyler

Photos From the Author

IN THE MONTH of May we took a look in "Target Tackle Topics" at what the well-equipped bullseye boys (and girls) consider essential. Less obvious, albeit much more arbitrary, is what might be considered appropriate for the big-game hunter with a bow in his hand. That bow in his hand provides a good starting place.

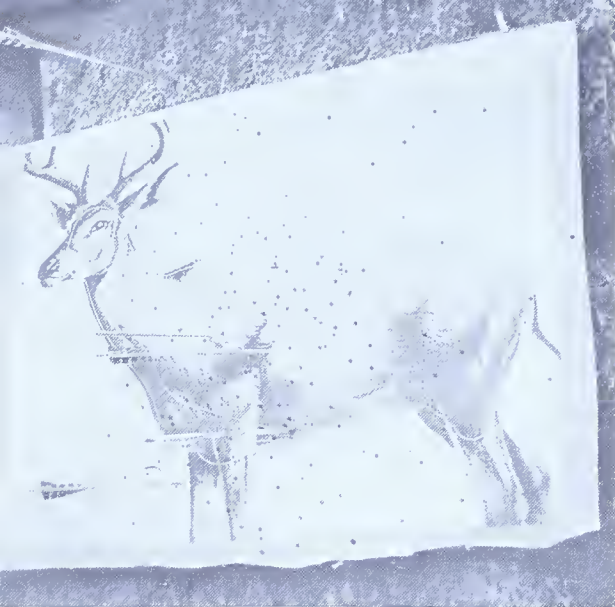
It would seem that any old bow that shoots well will suffice. But, there is so much more to it that it would be a big mistake to pass over this area too fast. This is the power plant that we carry along to do the job. All else would be lost effort if insufficient attention was given to this basic facet of bow hunting.

In previous approaches here, it has been recommended that no less than 40 pounds be considered acceptable for hunting big game. This recommendation is valid only if the person shooting the bow is capable of utilizing this potential. Since standard bows are weighed (pounds of pull necessary to draw the base of the ar-



Photo by Leonard Lee Rue, III

FOR BIG-GAME HUNTING, Schuyler believes that a bow of at least a 40-pound pull should be used and recommends a bow quiver.



BOW HUNTERS SHOULD get plenty of practice. Only two of these five arrows would have killed this deer. Shooting was at 55 yards.

row head to the back of the bow) at 28 inches of draw length, an arrow shorter than this will not utilize the full 40 pounds. Or, if the archer is incapable of drawing a 28-inch arrow to the back of the bow, he will have something less than the 40 pounds advertised.

The old rule of thumb, that bow weight is about two pounds to the inch, has been generally discarded in favor of the new Archery Manufacturers Association system. This divides the advertised weight of the bow by 20 to determine the weight value in an inch of draw. In this instance, $40 \div 20 = 2$ pounds. If the bow hunter only gets his 40-pound bow back 27 inches, he is losing 2 pounds of draw weight and his bow is only shooting at 38 pounds. On the other hand, of course, if he draws 29 inches, he is shooting a 42-pound bow. At other weights, the loss or gain will be different for each inch of draw.

Herein lie some of the reasons for my personal recommendation of a minimum 40 pounds in bow weight for Pennsylvania big-game hunting. In the excitement of the moment, cramped quarters, etc., a hunter may fail to come to full draw when a deer

presents itself. He is going to miss or get a bad hit even though his aim is perfect. This is just another good reason for getting as close as possible to the quarry to insure a clean kill. The shorter the distance, the smaller the margin of deviation will be from the aiming spot on the animal.

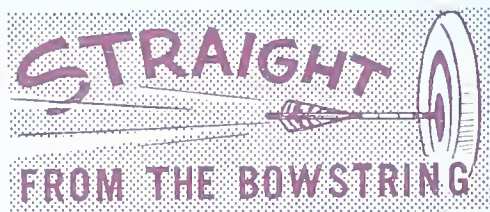
It is true that two bows of identical power weight might have different cast. One will drive a shaft faster and with a lower trajectory. But this is only one more reason to support a minimum of 40 pounds. Due to the very fact that, for any of the reasons mentioned, the bow may put out something less than its stated power, we get into a critical area of killing power.

Maximum weight should be limited only by the individual archer's ability to properly handle the bow.

As to the make of bow itself, this is purely a matter of personal preference. Any of today's hunting bows are limited chiefly by the ability of the owner. It is true that you will pay more for a smooth action that utilizes the maximum power than you are likely to find in the price-oriented power plants from the assembly line. Nevertheless, it is possible to buy an excellent hunting bow for considerably under \$100.

Those who shoot the heavier weights for target, 40 pounds and up, may want to use the same bow for big-game hunting. The only change suggested here is to camouflage such bows for the field. This can be done in a number of ways—cloth covers, tape, or a direct application of paint.

Aside from the basics of a good bow of sufficient power-weight are two relatively modern accessories—sights and stabilizers.



It has always been a personal belief that sights are all but useless in general big-game hunting. An exception or two must be reserved for the *still*-hunter who has his shooting area mapped out in advance and knows the distance to certain bushes and trees within the perimeter of his probable shooting area. However, in general, sights have several big drawbacks for hunting. Foremost is the inability to judge distances accurately under field conditions. Unless the distance is known, the man with the sight has no advantage. In fact, while he is trying to adjust his sight to his guess mark, the quarry is likely to take off. If the distance is such that he doesn't have to worry about alarming the deer, he is too far away to shoot at a living creature with sufficient accuracy in most instances. There is also the problem of getting through brush without knocking the sight out of adjustment.

Hunting Sights Available

Nevertheless, there are a number of hunting sights on the market. There is no reason to believe that continued improvements will not make a hunting sight increasingly popular.

Stabilizers have been added to some hunting bows to increase mass/weight as well as to dampen out the effects of torque and poor release. Hunting bows are generally shorter, and consequently lighter in physical weight, than are target bows. Because of the conditions under which hunters are used, the stabilizers have been greatly shortened. The long, weighted rods typical of the target line would actually be detrimental under hunting conditions because of their unwieldly size.

Improved stabilization has been incorporated into some hunting bows simply by increasing the size and weight of the riser section. It all boils down to an effort to eliminate somewhat the same problems inherent in shooting too light (mass/weight) a rifle. It is easier to hold on target with



SCANNER BOW SIGHT was designed for hunting, has a see-through window with calibrations which should be set up during practice. This design is expected to gain favor as time goes on.



ONE OF THE MOST essential items of equipment for an archer—or any outdoorsman—is a comfortable, broken-in pair of boots. They should be broken in before you do any hard walking.

STABILIZERS for hunting bows, as shown below, are relatively new. They serve the same purpose as in target archery—neutralize the effects of torque and poor release—but are shorter here.



a heavier arm than with a light one.

There are manufacturers who persist in applying beautiful finishes to hunting bows. You have to pay for this finish. If you are wise, you will cover it up. Camouflage is important. This subject has been covered and mentioned frequently here. Of the many ways to camouflage a bow and still preserve the original finish, we find that a good coat of furniture wax with an overlay of dull ear primer in several colors is best. It comes off so easily that it is necessary to touch up the paint occasionally to preserve the camouflage.

The same application works well on hunting arrows. Some hunting arrows today come in preapplied camouflage colors. Aluminum is excellent for hunting, but the usual finish will reflect sunlight like a mirror at worst and is easily visible at best. Most fiber glass arrows come in a relatively bright finish which should be striped with some color of dull paint. If wood is to be used, and the recommendation here is for no less than compressed cedar to minimize splintering in the event of a non-fatal hit, stay away from bright colors. Or get out the spray can.

How Much Helical?

How much helical, or twist, is incorporated in the fletching should be determined to some degree by what type of hunting head you are using on your arrows. Personal preference is for no less than four blades to increase the cutting area. This reduces the need for severe helical since four blades will balance well if they are close to the same size and weight. The same is true of a well-balanced three-bladed head. It should be kept in mind that the primary purpose of having an arrow rotate on its own axis on the way to the target is to equalize any deviation from true course and to keep it going straight.

Those who believe that increasing the angle of the feathers to induce more rotation for accuracy are safe

on this point. However, they must also realize that each additional degree of angle set in the fletching is certain to slow down the arrow.

Unfortunately, the only sure way to test the flight of a hunting arrow from a given bow is to shoot it with the hunting head attached. Utilizing a target head of comparable weight will provide only the answer to proper balance. It will not determine how the arrow will fly with a broadhead attached. This makes it necessary for test purposes to risk a few hunting heads.

One of the best target butts for this purpose is one that is badly shot out or weatherbeaten, or both. It will either stop the broadhead so that it can be pushed the rest of the way through, or it will slow it down so that it doesn't suffer undue damage. In the absence of such a butt, look for a stone-free bank, a pile of cinders or clay. By all means, sharpen such heads after use if they survive the test. Avoid blades which do not taper on the trailing edge or which cannot readily be removed from an animal hit by you.

It is believed here that some bow hunters tend toward a heavy degree of helical fletching in the thought that an arrow tends to stabilize through gyroscopic action as with a high-speed bullet. Although there may be some such effect, it must be minimal because of the relatively slow speed. These speeds have been checked at considerably under 200 feet per second for the average bow. Compare this, for example, with an old 30-30 bullet of 170 grains still punching along at 1,890 feet-per-second at 100 yards—well beyond the practical killing distance of an arrow. Anyway, the spin of a bullet is established by the time it leaves the muzzle of a gun whereas an arrow hardly has begun its rotation by the time it leaves the power plant.

Choice of a quiver should take into consideration the type of cover to be hunted, how much foot travel is in-



PGC Photo by Steve Kish

DGP ED GDOSKY EXAMINES NICE BUCK taken in northeastern Pennsylvania by archer. Note camouflaged clothing and handy bow quiver.

tended, and how close to base you will be hunting.

Bow quivers have become increasingly popular. My preference is for one which holds no fewer than six arrows. This makes it possible to have several field arrows along for any legal small game or a chance to loosen up the bow arm at lunch time. It is important, if a bow quiver is employed, that practice be done with a full quiver. Also, check for rattles so that the arrow receptacle doesn't call attention to you. The old and once more popular back quiver is fine for still hunting, but it is tough carrying through brush. The same is true of a side quiver. Whatever the choice, the quiver should hold sufficient arrows for any likely needs. Bow hunters have been known to run out of ammunition far from their base of operations, whether the car or the camp.

Headgear should be such that it will not interfere with the normal draw. My high anchor makes any hat with a forward bill impractical since it gets in the way of the bowstring.

Consequently, I've used everything from a tam to an elastic hair band to mostly nothing at all. The important note here is simply to practice with any headgear in place before chancing that it will get in the way at a crucial time. Caps with rear-slanting conical tops which came down history from England had a practical application. Many of the earlier bowmen drew their strings back to the ear, and any hats with a brim were apt to get in the way.

Camo Suit

There is nothing to beat a regular camouflage suit for outer wear. Some on the market today have been designed for the bow hunter. They have ample pockets for such extras as drag ropes, kerchiefs, spare strings, a roster, compass, sandwiches, headnets, etc. In one garment you can have outer wear that takes care of the major camouflage requirement. It hides you.

Lest this sound too commercial, it should be pointed out that a certain camouflage effect can be attained with

regular clothes. To do so, however, it is necessary to stick to dark colors which more nearly match the foliage expected to be encountered. Some hunters have effectively splotched old trousers and jackets with paint to attain camouflage of a sort.

If a commercial offering is considered, there is an important point to keep in mind. Such a suit may be comfortable in itself with light underclothing during normal temperatures encountered during the October hunting season. If the weather turns cold, or hunting is planned during the mid-winter season, a suit that is comfortable by itself may become too small. Get the garment large enough to permit heavier clothing underneath.

Jacket Compromise

Since they are available, some bow hunters settle for just a jacket of camouflage. It is a reasonable compromise since only the upper half of the hunter is normally exposed to view during the heavy foliage encountered in the early bow season. Dark trousers should be combined with such a jacket, however, to maintain as much as possible the total camouflage effect desired by archers.

Finger tabs and arm guards are seldom conspicuous unless they are white. But, total camouflage should still be sought as much as practicable.

We have just about covered every area except that very important one of the feet. There is nothing more likely to ruin a good hunt than improper choice of footwear. Aside from the need to avoid purely white footgear, the sole consideration here is comfort. The feet are certainly the least conspicuous of any part of a person's anatomy under field or woodland conditions.

Don't ever start out with a new pair of shoes or boots until you feel that they are broken in properly. October can be hot. Rubber boots can induce perspiration which in turn can cause blisters. The most practical, from the standpoint of wear and tear as well as foot protection, is a pair of water-resistant leather boots which have proven their worth.

Such footgear can be worn with light socks or heavy socks as the weather dictates. My preference is for light foot underwear. If the shoes fit well, there will still be air space to minimize perspiration in warm weather and to retain body warmth on cooler days. When the thermometer demands heavier protection, I wear both dress socks and woolens.

In the earlier part of the season, if snake protection is no consideration, tennis shoes or sneakers provide good footing and comfort. Even if they become wet from early morning dew, they will dry quickly during exercise. It is important that such footwear be of good quality with sufficient arch support. Otherwise, unaccustomed long hikes can produce aching arches and possible foot damage.

If late mosquitoes are a problem, a pair of woolen socks into which trouser legs can be folded will eliminate these pests from eating your ankles. A good repellent can take care of the more obvious areas.

No one who expects to win will take on any sport without having properly practiced, nor without the proper tackle and as much knowledge as he can absorb. The preceding should be of some help in avoiding some pitfalls, possible profanity and frustration. It won't get you a deer, but it may help you get closer to a venison dinner.

We Believe It

Dragonflies are among the fastest creatures on wings, capable of flying backward, forward, up and down at unbelievable speed.

The Unexpected

By Don Lewis

Photos by Helen Lewis

"HEADIN' YOUR WAY, Don," Wib Anderson yelled above the excited yelps of my rabbit dog, Rip. "He's carrying the mail."

I spun in the direction of the call to see a speeding rabbit streaking through the woods. I hit an open spot, and I flipped the safety and swung in from behind the rabbit. When my 12-gauge double passed the nose, I pulled, but the gun did not fire. This flustered me for several seconds. The only thing that saved the day for me was the rabbit decided to cut up past me. The left barrel fired, and I got him.

"Nice shooting," was Wib's comment as he arrived on the scene. His brother, Milton, put in a complimentary word as I began to field-dress the



HAVING THE RIGHT KIND of gun, keeping it in good condition and knowing how to use it make for a successful small game hunter.

rabbit. Neither one had any knowledge of the problem I had with the right barrel. When I mentioned that I had had a problem, each seemed surprised, but agreed it had taken me quite awhile to shoot.

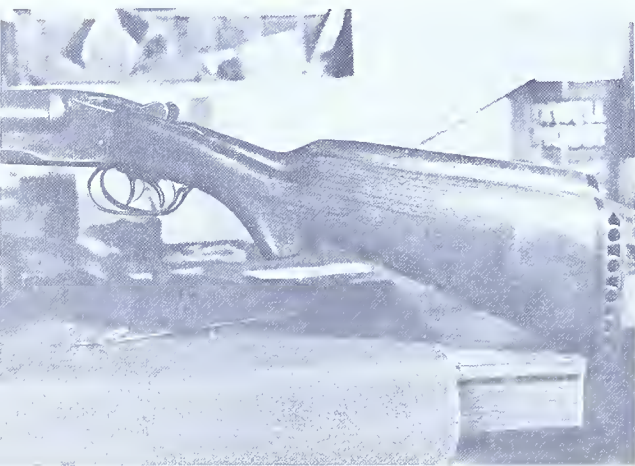
"What do you think happened?" Milton asked as he helped me stuff the rabbit into my jacket. "Did the shell misfire, or was it a gun problem?"

"You just couldn't have forgotten to put a shell in the right barrel, could you?" Wib kidded with a big grin.

"Not me, Wib. I've done plenty of dumb things, but I never have done

that trick. I'm one fellow who makes certain his shotgun is loaded," I answered as I opened and closed the double a couple of times. "However, I think I know now what the trouble was; it can happen in any tight double even if it's old."

"We're not gunsmiths," cut in Wib.



DIFFERENCES IN LENGTHS and drops of these two stocks are readily apparent, and these make guns very different in their handling qualities.

"If it doesn't happen to be a dark secret of the trade, how about telling us. We could profit by it."

"I'll not only tell you, I'll show you," I whipped back. "If you recall early this morning, I took a snap shot at a grouse. . . ."

"I also recall that you missed it, too," Wib said politely. "Go on, I'm sorry I cut into your story."

"Well, I not only missed the grouse, I failed to open the shotgun far enough when I was reloading, and the hammer didn't cock."

"I don't follow you on the tight double stuff, and the age shouldn't make any difference as I see it. The hammer should cock," Milton said.

"You're certainly right," I answered. "The hammer would have cocked if I had broken the action entirely. Most old doubles nearly fall open, but on a new gun or one that is still fairly tight, it's possible to slip a shell in without having the gun broken enough to cock the hammers."

We discussed the problem for several minutes as I worked to show the Anderson brothers why it's important to break a double wide open.

"Strange, I never knew a problem such as that one existed," Milton said thoughtfully. "I always thought it took a broken piece to make a gun inoperative."

"What worries me is now I know there are things besides poor shooting that can cause me to miss," Wib remarked. "I guess it's true we never get too old to learn. That's sure a new one to me."

"I wouldn't lose any sleep over it, but it does prove that a bit of neglect can be costly later on," I told them.

"You still have me worried," Wib said after he kicked over a large brush heap without any results. "I use a pump. What should I look for in the way of simple mistakes? Is there a gremlin somewhere in a pump gun that can foil the hunter?"

"Wait a minute, Wib. On a beautiful winter morning with three inches of fresh snow, I'm out to hunt, not to give lectures on gun problems. I'd like to round up another rabbit."

"We should be able to round up a dozen if these tracks indicate anything," Milton said, pointing at the marks in the white ground blanket.

We might have wasted a good part of the morning talking about problems if I hadn't kicked the base of a snow-covered stump and roused a sleeping bunny from its nest. Before I had a chance to see if my shotgun had any more problems, Milt tumbled it with one shot.

"He didn't seem to have problems, and he's using an old double," Wib needed.

"I did," I said sarcastically.



"What went wrong, Don?" Milt asked seriously.

"Couldn't see the rabbit. It got directly behind a tree, so it's a good thing you nailed it. I sure couldn't have done anything."

We soon forgot all about gun defects and trees that get in the way. We spent the rest of the morning matching our wits against the wary briar patch dwellers. We were back at the house for lunch when Wib brought the subject up again. It turned out that Wib thought each shotgun had one or more specific things that would plague a hunter. He was seriously trying to find out the failures of each gun.

Unexpected Problems

I'm not certain it's possible to list exact problems that pertain to each type of shotgun. I've found out that it's unexpected things that have always bothered me. The failure of the right barrel to shoot on my double was strictly my fault. I can't remember ever having that problem before or since. Since the gun is relatively old, there are a number of things that could have happened, such as a weak spring not operating the trigger or just sheer wear, but I'm convinced that I was solely to blame. Whether it sounds possible or not, a shell can be put in many doubles that are not opened far enough to cock the hammers.

Some years ago, a friend and I were hunting rabbits in Jefferson County. He was using a very nice 16-gauge pump that he was most proud of. He was meticulous about taking care of it. I tracked a rabbit into a patch of huckleberry bushes and got my friend all set to take the shot. Everything went as planned except my buddy didn't shoot. I waited till the last second before I shot. I got the rabbit, but I was at loss to know why my companion hadn't fired. I had seen him aiming.

He explained that the gun hadn't gone off. He said he'd had no problem



COMPARATIVELY FEW hunters ever check their guns on a pattern board, thus don't know what results can be expected from different loads at different ranges.

with it. We examined the gun, and I worked the action time and again, but nothing seemed wrong. My friend was aware that a pump gun should be worked rather vigorously, and he thought he had loaded it in this manner. When I attempted to work a few rounds through the action, I found the answer. Even though the shells were almost perfect looking handloads, each had a slight bulge at the base wad that kept it from entering the chamber properly. It just happened that I was using a 16-gauge pump, and it worked perfectly with his ammo. A handful of my shells put him back in business.

I want to inject a word concerning this oversight in handloading shot shells. Unless some care is taken, a heavy bulge will often form just above the brass during the crimping operations. On most loading presses, the



TESTING HINGE PIN on an old double. Too loose a hinge pin can cause gun to fly open when shot—a rather disconcerting experience.

shotshell has nothing to guard against this, and cases that have been loaded several times will often bulge or swell. Ponsness-Warren licked the problem by having the case remain in a full-length sizing die while being loaded. Pumps and semi-automatics won't function if the shells are distorted.

One of the most irritating gun failures I ever encountered was with an old pump of unknown vintage. It was a deceiving outfit since it looked sharp as a tack, and was one of the nicest swinging guns you could find. It had a cantankerous habit of only firing when it was being shot at clay birds or at the patterning board. When game appeared, it seldom fired. I tore it apart so many times, I could do it in the dark, but I never solved what was ailing it. Other gunsmiths assured me it was this or that, but the old gun never lost its nasty habit. I'm sure it was just a case of each part being worn slightly. The mistake I made, and each year I see similar situations, was trying to use it for a couple of years before I finally junked it. Believe me, I'll not use any gun again that isn't up to par. This might be good advice for you to consider.

Today's hunter leans toward the semi-automatic, and I really can't

blame him. This is one action that is a breeze to use. I have some mixed feelings about the semi, but I've always been a bit partial toward the double. I hesitate to suggest a semi for a new or inexperienced hunter, since once it's fired, it's reloaded faster than the eye can blink. An accidental shot could be fired if this isn't kept uppermost in mind, and I consider this too important to overlook. However, the semi job outdoes them all in many respects, and today's version is in a class by itself. The older models were a bit bulky and heavy, but that's not true today. I suppose the light weight and ease of swing are contributing factors to the success of the semi.

Firepower

I know that pump advocates will quickly point out that their favorites are just as light and easy to swing. This is true. The one aspect the semi has that is not available in the others is firepower, and I'm not suggesting that the hunter forget all the skills of shooting and turn to sheer rapid fire. I'll be the first to agree that one well-aimed shot is far better than two or three that are just blasted away. On the other hand, I've hunted long enough to recall when there were plenty of times I could have gotten wounded game if I would have had the firepower of the semi job. I can't overlook the fact that other than a slight amount of recoil, nothing breaks up the hunter's aim on the second or third shots with the semi-automatic. It takes a real expert with the pump to equal the semi's speed.

With all that this action has to offer, it, too, has some drawbacks. The semi is more susceptible to dirt and sludge than the others. To me, these are real enemies to the self-operating shotgun, and I've discovered over a number of years that time is not a factor in the buildup of sludge or residue. On some shotguns, the gas port or power piston must be cleaned three or four times each season. Normally,



HANDLOADING CLINIC SET UP AT outdoor writers' meeting makes easy comparison of different tools. Tool which keeps shotshells in full length die during loading is best for pumps and autoloaders.

one time each year should be sufficient. I can't forget the fellow who asked me to take a look at his semi before he junked it. It seemed that it had fouled up a very expensive duck hunt. In the course of our conversation, he mentioned that he had not cleaned the gun since it was new five years before. It wasn't hard for me to believe, for when I fired a high brass shell the action barely managed to extract the empty. I removed a teaspoonful of burnt residue from the mechanism, and when I got it back together, it handled all ammo with ease.

Clean 'Em First

Although the recoil spring or the friction rings can play havoc with some autoloaders, the gun should be cleaned thoroughly before starting to replace parts. On some, improper loading can cause failures. Be sure to insert the shell in the magazine far enough for it to lock—this is especially important for those who own the fine Winchester 1400.

Not all the gremlins fall into the malfunction class. An ill-fitting shotgun can harass a hunter for years. The sad part of it is, if the fellow thinks a good bit of a shotgun, it's extremely hard to convince him that the shotgun is not suitable. I've seen hunters put up with guns that were totally wrong for them, simply because the guns were inherited or were gifts. I think it would be far better to admit the gun was wrong rather than continue to hunt and end up with nothing but frustration.

From my experience with shotguns, the recoil pad ranks high as a troublemaker. On a hunting shotgun, I would install a pad only if the stock was not the right length. If a pad must be installed for any reason, a stockmaker should do the job, and I would give a lot of thought to a half pad.

Shot size gets little attention. The old theory that 6s will fill any need isn't foolproof. It's one size that comes close to meeting all the requirements, but there are times when larger or

smaller shot would be better. I've stated in a number of columns on shotguns that pattern is really more important than the size of the shot. Most shotgunners never pattern their guns, and therefore never see the large empty areas which some shot sizes leave in a pattern. On one gun, I used the No. 4 shot the owner considered tops. There were three places in a 30-inch circle where a pound coffee can never touched a single pellet. A load of 5s helped and 6s showed a marked improvement, but a tennis ball couldn't find an opening in the pattern of 7½s.

It wouldn't be fair to talk about the unexpected things that plague us, without revealing a few human errors. I caught the barrel of my shotgun in a grapevine, and stood helpless while a rabbit took its time leaving the scene. I tracked a rabbit under a large brush pile. Gingerly climbing aboard, I gave a mighty jump and disappeared into the thing. Finally getting extricated, I found a new set of rabbit tracks leading to a groundhog hole. A friend of mine ran a stick up a hollow log that had a rabbit in it according to his calculations. After about five attempts to persuade the rabbit to move, I yanked the stick out and stuck my head in front of the hole

only to be promptly whammed by a very irritated grouse.

Where does all this shotgun talk bring us? Well, it should be a reminder that a good examination of our scattergun might reveal a defect here or there. Could be that this might lead to the purchase of a new one. A few rounds of trap might bring a little flexibility to the swing and point. In fact, another season is just around the corner. Keep in mind, the shotgunner doesn't have much time to make up his mind. I watched the last deer I bagged for nearly two minutes before firing, but a ringneck might be in shot gun range three seconds—a grouse even less. There's no time to lose.

The chill of the fall winds, the whiteness of new snow, and the fee of a good shotgun set the scene. Why not be a part of it? Success or failure hinges on the simple things. It's not always the catastrophe of a fall that breaks a stock or the stupidity of driving a hundred miles without your shotgun that drives us to eat green briars. Sometimes it's almost humiliating—like catching the barrel on a grapevine or falling eight feet into a brush pile. But this is what keeps most of us going. I try hard to correct any known defect. What worries me are the unexpected things.

Looking Backward . . .

"Men in those times knew how to hunt. They would have been ashamed to have been seen carrying one of the dude shotguns which city swells now take into the country with so much show of importance. They carried their trusty rifles, and when they killed a squirrel, pheasant, quail or turkey, they did not tear its body to pieces as do the fancy hunters of our times, but shot its head off. That was shooting requiring both skill and practice, and one that did not kill his game in that way had no reputation among hunters."

"Presbyterian Banner Weekly Recorder," December 15, 1886, from "Pennsylvania Scrap Book," Vol. III.

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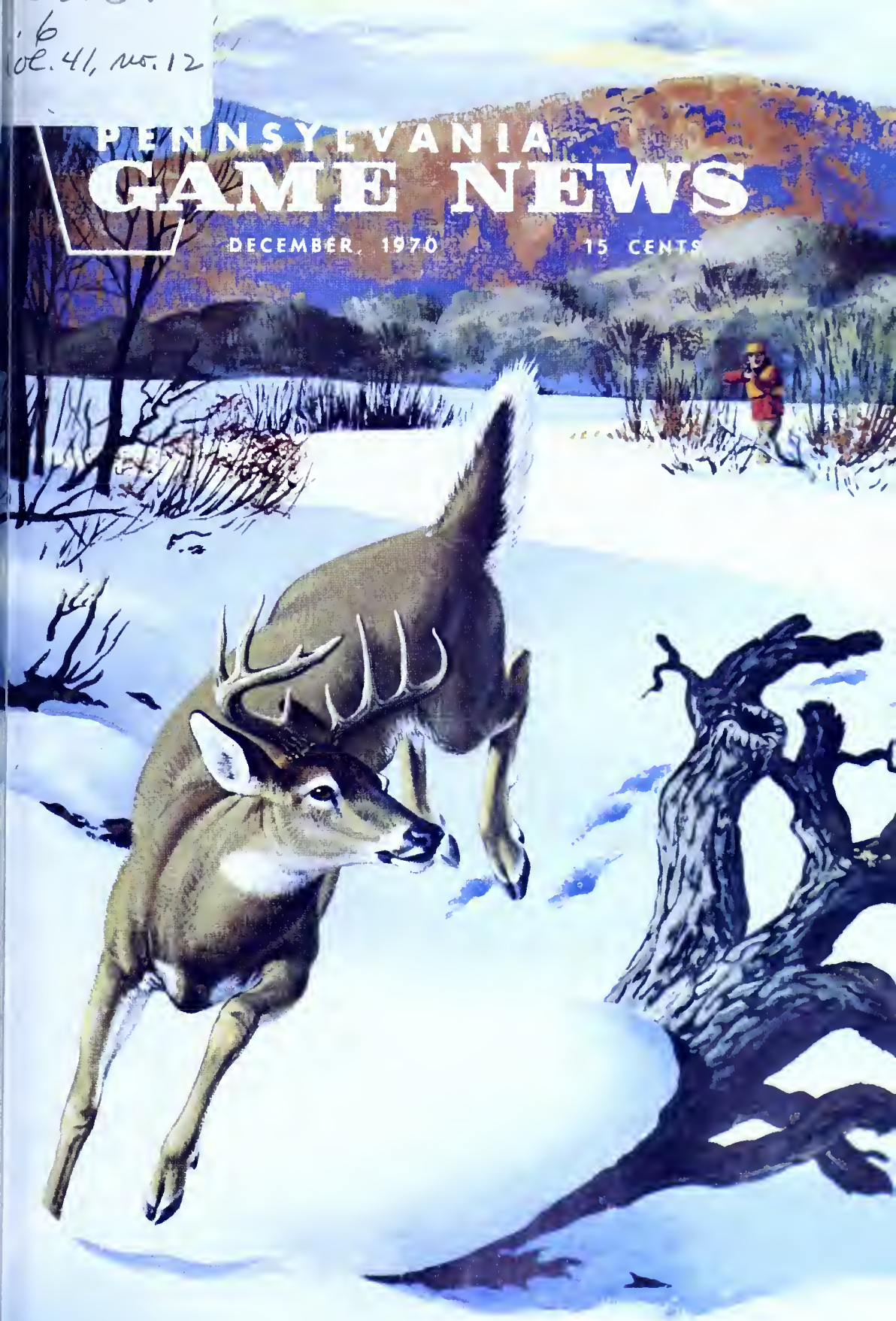
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IN THIS ISSUE

FEATURES

	Page
The Tricky Trio	2
By Bill Walsh	
The Last Drive	7
By Chet Frystak	
A Little Meat in the Pot	13
By Ron Jones	
Wanted—a Bigger Buck	16
By Jerry Lietz	
The Ghost of Jim Gray Hollow	23
By James Talerico	
Granddad's First Buck	25
By Jack Ryan	
The Lonely Hunter	28
By Richard R. Douglas	
Big as Life	43
By J. David Truby and J. S. Torries	

NEWS

Field Notes	34
Conservation News	39
Hunter Safety Education	41
By John C. Behel	
GAME NEWS Index for 1970	63

COLUMNS

Wild Game Is Royal Fare (Camping)	47
By Les Rountree	
Extra Eyes for Archers (Archery)	52
By Keith C. Schuyler	
Is There an All-Purpose Rifle? (Guns)	57
By Don Lewis	

COVER PAINTING BY CHUCK RIPPER

Can there be anyone in Pennsylvania who isn't familiar with the white-tailed deer? It doesn't seem possible. With maybe a million hunters scouring our woods for them each December, it seems probable that almost every family in the state is represented, but in case you happen to be one of the few that's missed, we want to point out that this is merely the top big game animal of North America. The three senses important for survival—sight, smell and hearing—are sharp enough that a whitetail is more than a match for most hunters, and yet his numbers are plentiful enough that many inevitably are taken. The circumstances make for outstanding hunting. You should try it.

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Given My Druthers . . .

GIVEN MY DRUTHERS, I'd hunt deer. White-tailed deer. Not everyone feels that way, I'm sure, for someone is always writing magazine stories of how he just bagged the world's biggest and rarest something or other, usually in the far-off reaches of the Blue Nile, the interior of Tanzania, or perhaps in the top-of-the-world country of the Himalayas. Or else he's hunting "dangerous" game. Gunwriter Charley Askins, who certainly has shot his way across most of the world's greatest gamefields, once told me that, given his choice, he'd hunt the "bites-back" kind of critter. Now, I've never had the opportunity to hunt such impressive quarry, but once upon a time, in what was quaintly called the ETO or European Theater of Operations, was involved in hunting the shoots-back kind and must admit that for pure excitement—and sheer terror—nothing else quite equals it.

But I don't have to live on that razor's edge between life and death to appreciate the former. Just being outdoors, away from a city, with no pressing mass of humanity to contend with hour after hour, week after week, is enough to make me happy. And if I can combine this with a good hunting trip—good in the sense that it reaffirms my relationship to my forebears, to the earth itself, with no necessity for killing an animal, though if that does happen it's a natural part of the trip too—I feel I've had as satisfying an experience as today's world offers.

Hunting the white-tailed deer does this for me. It does it for others, too, I'm sure, for Bill Walsh goes into it a bit in his story in this issue, and I've heard others comment on it. I hope you get the same feeling. Or at least some sort of inner satisfaction that nothing else renders. Most deer hunters must, for simple arithmetic proves that only about one out of five Pennsylvanians bring home a whitetail in a given year, so it can't be just the steaks and chops that keeps them climbing our hardwood ridges and ghosting through the pines. Nor is it the thought of such meat. Meat can be bought in any supermarket for much less than the accumulated cost of the few pounds of venison that rewards a successful hunter. Therefore, it has to be the hunt itself—the actual leg-numbing, lung-busting treks over those endless ridges, the constant alertness for the flash of an antler in the hemlocks, the male pleasure of meeting nature on its own terms and sometimes winning—that keeps us going back year after year.

No other game animal provides the incentive for this that the whitetail does. He has natural intelligence, excellent senses, superb physical attributes, and he's found in large numbers in our state. This combination doubtless accounts for his popularity as a game animal here as well as in many other parts of the country. And while I have to admit that I'd like to hunt all the exotic kinds of game this world has to offer, if I were limited to but one species I'd have to choose the whitetail. He's the king. And this is December—the time to try for him.—*Bob Bell*



Jim Roever

The Tricky Trio

By Bill Walsh

WHY I LOOKED back over my shoulder I'll never know. I certainly hadn't heard deer. Fact is, I doubt if deer could have heard each other in that sodden, soggy, misty, foggy, damp-drenched world that was opening day in Warren County of the year in question. Although it hadn't rained in the proper sense of the word, the temperature had hung stubbornly at and near dew-point all day. A fellow camp member whose stand I'd passed said, "The whole world is dripping away!"

More importantly, he told me he'd seen three deer that restless hunters like me had pushed back and forth across the top of the hill and which had passed him at close range five or six times. Knowing his ability to exaggerate—a not unacceptable trait in a fellow hunter—I figured he'd seen the deer at least twice.

"How close?" I asked.

"Well, in this durned fog they had to be near'n 50 feet to see 'em at all. Close enough to count horns on one, anyway. And the buck is smart enough to keep so close to his lady friends you can't get a bead on 'im!"

Later, I had temporarily quit roaming and had taken up a stand when another camp member trudged by without spotting me. I low-whistled a bobwhite . . . our camp identification signal.

"The same three deer keep showing up," he complained. "There's a buck with them but they stick so close I've not been able to get a crack at him."

"How big?" I hadn't asked the first informant, who consistently creates 10- and 12-pointers out of fork-horns.

"A small 7 or 8," he frowned. "Nothing exceptional . . . but acceptable."

As he moved away I thought, You bet acceptable—to this feller at least! I'd not collected a buck for some five

or six years in a row. The part that smarted was I'd come close to good bucks many times, only to have something beyond my control prevent my shooting. Twice other hunters shouted to buddies. Once, on a windy day, an ancient chestnut stub that probably had stood in the same spot for 200 years toppled and spooked a lone buck I figured for a 12-pointer. *Something* always happened. I began to feel jinxed.

Pooching Doesn't Pay

Since those who'd been standing had seen the tricky trio with its hard-to-get-a-shot-at buck . . . and I who had been "pooching" along most of the day had not, I remained at that stand until 15 minutes before the end of the hunting day. It takes that long to reach the clearing leading down to camp which I can traverse in the dark if necessary. I had almost reached the woods' edge when my watch showed the day's hunt over. I stopped and racked the shells out of the rifle.

At that point this story opened—when for some reason I turned and glanced back. The landscape resembled a spooky movie setting. Swirling fog half hid the dripping boles of beech and oak. But through it all I made out the slinking forms of three deer heading back almost to where I had stood most of the afternoon. As one slipped in and out of a spot freer from fog than most, I thought I saw a small but acceptable set of horns.

I knew where I would be early the next morning, for this was one of the few times I had the entire first week of the buck season without a commitment . . . except to hunt each day I wished.

It's a carefree feeling only a hunter can understand. What I felt most was a sense of well-being . . . contentment

with *where* I was—in fresh, clean air and living forest; satisfaction with *what* I was — an individual hunter seeking any buck deer with “my name on him” . . . with excitement but without haste or greed. One thing about living in Pennsylvania, I reasoned: there’s always tomorrow and there’s *always* another deer.

At camp I was advised to get back up there next morning and try to pick up the trail. Without argument I smiled to myself when I thought how far and wide such deer might roam—and mingle their tracks with those of other deer—during the course of a long December night. I decided not to hurry or push anything; nor would I discipline myself to a stand if I wished to explore a bit. My body and soul had already received the rest and recreation I’d sought. A deer would just be a welcome dividend now.

Next morning when I shouldered my rifle on its strap for the long climb, the temperature stood at 20 degrees. The fog had vanished and the sky, devoid of clouds, held stars so bright that it seemed you could reach up and touch them. Wherever moisture had clung yesterday, frost-ice now covered the countryside. And every step by man or deer would ring through the

WHEREVER MOISTURE had clung yesterday, frost-ice now covered the countryside. Every step sounded like walking on peanut shells.



woods like someone stomping across a floorful of peanut shells. There’d be no sense trying to walk up deer in this stuff, I thought.

By the time shooting hour ticked around I found the large gray-boled beech that commanded a sweeping view of an entire hillside. Nearby, two important deer trails converged into a Y. Twice before sun-up I’d heard deer hoofs puncturing the ice-coating, but the animals creating the sound were beyond vision.

Ice Cover Disappears

Within an hour after the sun’s rays poked through the branches overhead, it became apparent that the before-dawn sub-freezing temperatures were no indication of what the rest of the day would be like. By 10, the thermometer attacked the mid-40s. The ice cover mantling tree and shrub and grass trickled away — slowly at first, then in an impatient rush of melting. At noon I judged the mercury in the high 50s.

Discarding my mittens, I unzipped the insulated jacket. Following lunch I fought to stay awake. By 1:30 I had lost the battle—snapping awake an hour later wondering what had startled me out of my sleep.

Yes, there it was again, a stealthy footstep behind me and to the right . . . then another. Breathless and motionless, I tensed. It was a sound laden with furtiveness, as of a wary animal attempting to sneak by. A similar sound came from behind me and to the left. Whatever made it, there were more than one. Maybe three? The tricky trio?

Should I whirl now, stand up and be ready to fire? I decided against that. I’d seen too many surprised deer catapult into blurred motion, disappearing with the startling suddenness of shadows in the glare of a photo-flash. No, I’d wait.

They’d eventually have to work by me on either side and if I lay still—and there *was* a buck—I’d have him dead to rights. Then I heard another



TWO-THIRDS OF THE WAY ACROSS THE opening lay a downed log. The doe cleared it easily with a leap that added impetus to her motion.

sound . . . sibilant . . . hissing . . . and the mystery deepened. It came again. This time I understood.

Someone whispered, "I don't think he's asleep anymore."

"He hasn't moved," shushed the reply.

"Yeah, but he quit snoring several minutes ago. I'm going to get right behind him and give him a blast on the whistle."

So that was it! Two smart hunting buddies had come upon me and were about to raise me out of my nap so they could joke about it at camp that night. That would be Mac and his son George. Mac always carried a police whistle (as I did) for signalling the start of deer drives. I brought the foolishness to an end by quietly saying:

"What took you so long to get here? I spotted you an hour ago coming up the side of the hill."

Mac snorted as he came round the tree and gazed down into my sleep-flushed face. "Like heck you did. We heard you snoring a mile down the

hill and came up to see who had the chain saw."

George snickered, "I wonder how many deer went by while you were out!"

"None!" I told him, rising. "I can smell a deer a mile away and my nose would have awakened me."

Before they wandered off I learned they had not seen deer, nor had they struck fresh sign. Mac turned, in parting, to say, "If you get one, toot your whistle three times and we'll come back and help you drag it out."

Considering the "purity" of my stand violated by the meeting and the conversation, I soon left, too, quartering down the hill some 90 degrees off the direction they had taken. I doubt if I had taken a hundred steps before I spotted three deer working their way toward me through a patch of young, thick-grown hemlock.

I figured that Mac and George had put the deer out of a known bedding area in the hemlocks just below the crown. I also surmised my buddies



I TOOTED THE WHISTLE three times—and loud too! After the job was finished, I tooted again. But no help arrived.

were unaware of having done so, as that particular stand of trees is so thick you can't see anything.

Had the deer seen me? I couldn't be certain. Fortunately, when I'd observed the first flicker of motion I was in a mid-stride position, both feet firmly planted. Also, fortunately, my rifle was at ready, not shouldered on the sling. The deer disappeared into the thicket. They'd be closer *and* in the open when they came out.

Hunters who have waited out deer in this type of situation know how much better fitted for the contest are the deer.

Theoretically, I had it made. Shortly, the deer should step out from behind the hemlock screen, one at a time, and if the elusive buck was one of them it would be a slightly downhill, unobstructed shot of some 75 yards. But the slightest mistake on my part or a recurrence of my jinx . . . and *swoosh!* they'd tear out the other side of that grove and keep the trees between them and me. Although it was a wish more than a prayer and although it was wordless, the hunting gods heard me and listened.

The sleek doe first in line entered the clearing at a half-trot and covered the open space into thick second growth in less time than I had imag-

ined it would take. Two-thirds of the way across, a downed log lay too high to be stepped over and this she took with a leap that added impetus to her forward motion.

I tried to put horns on the next deer that followed in her footsteps but they just wouldn't grow. The deer that remained *had* to be it if this was, indeed, the tricky trio that had kept us muttering to ourselves. I could distinguish only the outline of the body and head.

After giving me the nervous waiting-fits for what seemed like several more minutes, the deer stepped slowly and majestically into the opening, stopped in its tracks and cocked a small-but-respectably-antlered head in my direction. A neck shot dropped him.

Before the field-dressing, I tooted the whistle three times—and *loud*, too. After the job was finished I tooted again. And later, thrice again. When no help arrived I took it in myself. My heart was light and, therefore, so was the deer.

. . .

"Oh, was that *you* doing all that whistling?" Mac grinned back at camp. "We thought it was someone on the other hill. Funny how the sound gets twisted around." He nudged George and they both laughed. So did I. Now that the buck hung from the apple tree it made little difference. If anything, I felt better that I'd done it myself.

And you know what topped it off and made it all more worthwhile? Some of the fellows were able to stay at camp and hunt through the second week. On several occasions they reported three deer—one a buck—traveling together. "And you know," they'd observe, "that darn buck hangs in among his lady friends so you can't get a bead on 'im!"

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GAME NEWS

To a Friend . . .



FRYSTAK'S BUCK WAS A BIG ONE, with a 20-inch spread and 11 points which measured 6 to 9 inches in length, his best in 19 years of hunting.

THE LAST DRIVE

By Chet Frystak

THE RUSTLE OF leaves in the beech grove below me broke the stillness of the early daylight. The 1967 Pennsylvania deer season was only minutes old, but I was already shivering with excitement and cold. I slowly raised my rifle and peered through the scope, trying to see what had made the noise. At first, I didn't see anything but a flick of a white flag quickly changed that!

Now I could make out the whole deer, along with two more. The woods were semi-open so I kept waiting until I could tell if any had antlers. The first one came into sight. It was an exceptionally large deer but its head was barren. The second deer showed and it appeared to be a spring fawn, judging by its size. I was really surprised to see it was carrying a small

rack. Now I could also see the third deer, and it, too, was a buck.

All three deer were visible now, less than 100 yards away feeding under a beech. I studied the last buck and I could make out six points. Although the rack was thin, the points were quite long and the width looked good. When he faced me, I compared it with his ears. It lacked about three inches from being as wide as his ears so it probably was about 13 inches wide.

I slipped off the safety and began to squeeze the trigger. I had a good rest on the tree by me and my aim was rock steady. Through the 6X scope the buck appeared to be just a few feet away. The 100-grain 243 bullet pushed out by 42 grains of 4350 would go speeding on its way and in seconds it would be all over. Yes, it would be all

over, and so would my hunting season.

Now my thoughts went to that sunny day back in October. I had observed two deer running from a bunch of wild apple trees near my house to a patch of timber on the ridge above. They were in sight for only about 45 seconds; one was a doe and the other was the best buck I had ever seen in my life. As he ran broadside to me, I



JANET FRYSTAK waits for the last drive to come out, after missing her chance at the big buck on the day before.

could see the massive rack with a lot of long points. Then he turned and ran straight away. The rack went well past his ears on both sides. It looked just unbelievable! That spread was definitely in the 20-inch class and the sight of it was still burning in my mind as I watched the two bucks on opening morn. I made up my mind then that I would get the big buck I had seen in October or nothing.

I let up on the trigger and lowered my rifle. After checking carefully to see that no other deer were around, I took one step away from my tree. With a flash of white tails, the three deer were gone.

To begin with, I am a dairy farmer

and I run 400 acres in Susquehanna County, about three miles west of Montrose. The rolling hills of mixed farmland and timber here seem to be excellent terrain for the elusive white-tail. I have been hunting deer ever since I could carry a gun and in the 19 years I have taken 17 Pennsylvania bucks.

Eighty-five head of Holstein cattle keep me busy most of the time, but there are a few hours every day of the season when you will find me searching for a wily buck. Morning and evening I usually hunt alone; during the midday hours I usually team up with other members of the family for a quiet drive or two. The usual group is my wife Janet, my brother Ed, who works at the A & P Tea Co. in Montrose, his son-in-law, Rusty, who works at Bendix Corporation, and Walter, another brother who farms with me. Once in awhile Bill Goff, another farmer, joins us. On Saturdays you might find Jim Riley, a Vestal, N. Y., schoolteacher with us, too.

Pass Up Small Ones

We all enjoy deer hunting very much and the fun of the sport is first with us. It doesn't really matter if we kill any deer, and many times we pass up small bucks hoping for a better one. I myself have passed up as many as eight bucks during the season, hoping for a better one which most of the time never came along. Just the same, most years we still score 100 percent.

Also, we have a friendly feud going as to who has gotten the best buck. In 1959 my brother Walt took a good 11-pointer with an 18-inch spread that I knew was going to be hard to beat. Then in 1966 Jim Riley came back from the New York Adirondacks with a 20-inch 10-pointer. All my bucks were just so-so, but I just kept saying that one of these years would be different.

That thought of "one of these years" was what I had on my mind when I saw that mighty buck in October. I knew he was a buck to beat all others

taken by our group. But seeing him was one thing and tagging him was going to be another!

Whenever I had some spare time that fall, I tried to spot the buck again, but my efforts were all in vain. Some sign on the ridge above my home kept my hopes high. I found quite a few buck rubs that were really unusual. Instead of picking on one- or two-inch saplings, this deer was rubbing trees five or six inches in diameter. I felt certain that this was the work of my super buck.

Six Days Till Season

October faded into November and still I hadn't seen him again. The days went by until only six remained until the season opened. Then I got a break. I was taking out a load of manure that evening when I spotted some deer moving around in the beech grove barely 200 yards away from the barn. When I got out of sight I made a quick roundabout detour, trying to identify the deer.

It was nearly dark when I saw them again. I had run about a half mile in order to do it but I felt greatly rewarded; I saw my super buck for the second time. It was then that I made my decision to be in the beech grove on opening day. I had already taken five bucks in that very same spot. In 1966 I got a better than average 8-point there with a very high rack. But it still wasn't the trophy I was hoping for.

I waited in the beech on that first morning until 9 o'clock. Nothing else showed so I went in to do my work. Later in the morning I planned to put on a drive on the ridge by my house where I had seen the buck the first time. In the evening I would again be back in my beech grove.

This was the schedule I kept for four days. We all saw bucks, but everybody was waiting. I had seen seven, but since I hadn't heard of anyone else tagging the big buck, I kept waiting, too. On Friday, the fifth day, we changed our plans a little.

Ed had only Saturday left to hunt so he said he was going to take anything that came along. That was okay by me, so after I left my beech grove I planned a drive in a small hemlock choked valley below.

Ed didn't have long to wait and I heard his 270 shatter the stillness of the snow-covered woods. When I got to him he had a grin on his face from ear to ear. In the snow lay a butterfat 3-point. After we got the buck home, we planned on what we would do next. I wanted to try the ridge by my home again, so we got ready.

The ridge is about half a mile long and 300 yards wide. It is an easy woods to drive and when this is done quietly the drivers get a good chance, too.

The standers are placed at two natural crossings at the south end of the ridge. One is an old barway leading to a large tract of timber to the west. The other is a power line where the brush has been cut clear in a 60-foot swath. The only other way that a deer can go is east, breaking across the road that parallels the ridge. We usually use two drivers and two standers. If there are five of us, we let one person walk by the road and flank the drive.

THE BARWAY CROSSING, one of two natural stands at the south end of the ridge on which the trophy buck was twice found.



We were all set. Ed was going to be one driver and Walter said he wanted to drive, too. That left Janet, Larry and myself. I took the barway, Janet got the power line, and Larry was to be the flanker.

A check of my watch showed it to be time for the drive to start, so I got settled on my stand. I could see Janet below me, some 300 yards away on the power line.

I kept wondering if it would be another dry run or if we would see the buck today. My thoughts were jolted by the crack of Larry's 30-30 down by the road.

I couldn't see him or anything else. Another shot sounded. I felt like going down to see what was going on, but I knew the place to stay was where I was. Five minutes went by, then I saw Larry walking along the road just the way he was supposed to. From

down through the woods toward them. But where was the deer?

Then I saw three deer heading for the road between Janet and Larry. They were in high gear and at this sight my mouth just dropped open, but no words came out. I didn't need any binoculars to see that my super buck was right between Janet and Larry. They held their fire until the buck crossed the road and then they cut loose. I saw the whole show, and I also saw that mighty buck escape without a scratch! Later they both admitted they were too shook to shoot straight. Larry's two shots earlier had been at the same buck as he skirted the edge of the woods heading for the power line.

Shot Too Quickly

Janet said she had a fair chance on the power line but shot too quickly and only succeeded in turning the deer back. We all checked his tracks in the snow to make sure he hadn't been hit. So far as we could tell, he hadn't been touched. We tracked him as best we could, but we never saw him again that day.

Saturday morning dawned clear and cold. The temperature said zero as I left the barn and headed for the beech grove. Some new snow had fallen during the night and would make ideal tracking. I checked the whole area but found no sign of any deer. About 8:30 our group got together again with the unanimous decision to comb every patch of woods possible in hopes of finding the big one.

We put on one drive after another, but our efforts turned up nothing. By 1 p.m. we were all so tired we could hardly walk.

Only one piece of woods remained to be driven, the one where the buck had been seen on the day before. Everyone doubted that he would be back, but I started making plans just the same for the last drive. Also, it would be our last drive in more ways than one. Our little group would break up after today since Ed and Larry had



GOOD 8-POINT TAKEN by Frystak in 1966, the year before he bagged the biggest deer yet taken by any of his hunting group.

this I realized that in between him, Janet, and myself was a buck, and maybe my super buck. I nearly jumped out of my skin at the sudden report of Janet's 270! If she got him I would be just as happy as if I got him myself.

Larry was still on the road about 90 yards from Janet, motionless. She was standing by the elm tree where she had been. I could also see Ed filtering

to go back to work Monday.

Jim Riley showed up just as we were finishing our final plans so I asked him what he wanted to do. Since we already had the standers, he said he wanted to drive. This was okay by me because it would be a bit of good insurance against a buck going back between the drivers. The only other change from yesterday was that I would be on the power line and Janet would have the barway.

My hopes were not very high as I waited for the drive to begin. It seemed unlikely that the buck would be back, let alone come out the same way. And if he did, I wondered, would I be able to meet the test?

The sound of gunfire from the drivers sent the blood surging through my veins. My mind was buzzing like a computer, wondering about all the possibilities.

I don't recall exactly all that happened, but I soon realized that some more shots from a lot shorter distance meant something was going to happen soon. I watched the area like a hungry hawk. Two does materialized out of nowhere and headed for the road. They were moving like jets and I could plainly see they were not going to cross the power line. I left my stand and crossed the road to get a better view. I saw the two does again in some thorn trees between me and my house. Next came two more does and a small buck. Bringing up the rear was the answer to a hunter's dream.

Quick Survey

I quickly surveyed the situation to decide what to do. I was about 150 yards away and I could plainly see that once they left the thorn thicket it was wide open for 300 yards. I was ready as they headed out.

The rifle seemed to dance all over as I tried for that shot. The big buck was running straight away and uphill. I held a little over his head and fired. Once, twice—three, four, five times. As I reloaded, I was talking to myself, telling myself to settle down. He was



WALTER FRYSTAK with his whitetail buck collected on State Game Lands 140 in northwestern Susquehanna County. A fine trophy.

getting farther away all the time and if I didn't connect soon my dream buck would become a nightmare.

I held my breath as I began to squeeze the trigger on the sixth shot. I was steady now and as the rifle cracked, I saw dirt fly ahead of the deer. Too high, I thought, so I held a little lower and squeezed again. I heard the bullet hit and saw the deer drop at the same time. I reloaded and kept watching to see if he would get up. He didn't.

Up close, he was even better than I expected. His heavy rack had 11 points which measured 6 to 9 inches long, and its spread was 20 inches. Near the skull, the antlers have a circumference of 5½ inches. He surely was the outstanding buck I had spent 19 hunting seasons searching for.

As the rest of the gang gathered around, no one even asked if he was the best buck we had ever taken. Most of the comment was on how hard he was to hit. I knew what they were talking about because I was still in a semi-shaking stage.

Walter stated that he had shot first, just one quick shot as the buck jumped up from his bed. Jim Riley was the middle driver and he had emptied his gun twice as the deer crisscrossed through the woods ahead of him. A close examination of the deer showed just how lucky he had been. We found at least 10 different bullet nicks on the body as well as a hole in each ear, and on top of that, the holes in the ears were made by different caliber guns.

My last shot had hit the deer in the spine just ahead of the tail and broke both hips as well as the spine. Due to the uphill angle he had been running, part of the bullet continued on and ended up in the lung area.

Another comment that everyone seemed to bring up was the size of the

deer. He was actually small for the size of the rack. A check on the scales later showed he weighed 144 pounds. Our bucks often run between 150 and 160 on the scales. My buck in 1966 went 169 and about 10 years back I got one that went 213.

My big buck's mounted head now hangs in my den, along with my other trophies. He may look a little small alongside of a mule deer or an elk, but I still rate him number one in my collection.

As another hunting season comes on, I keep wondering, will it be the same? It seems to me that something or someone is missing. I don't know. But one thing is for sure, I do know it is going to be hard to beat the mighty whitetail I shot in 1967 just 90 yards from my back door.

Over 160,000 Mallards Released in 19 Years

Pennsylvania, the leading state in the Atlantic Flyway in the harvest of mallard ducks, has raised and released more than 160,000 of these birds in the 19-year history of the State Wild Waterfowl Farm near Conneaut Lake, Crawford County.

Starting in 1951, the Game Commission has raised and liberated between 5000 and 10,000 mallards each year.

Prior to release, the birds are banded, and then are shipped by truck

to District Game Protectors all over the Commonwealth. The ducks are then released on suitable waterfowl habitat.

During the 19 years, bands have been recovered from more than 18,000 of these mallards. While about 85 percent of the bands recovered from these hand-reared ducks come from Pennsylvania, studies show that these waterfowl have spread throughout the eastern U. S. and Canada, and as far away as Alaska and Jamaica.

Combination Guns Okay for Migratory Birds

It is unlawful to use a rifle for hunting waterfowl or other migratory game birds. However, the Game Commission says that combination rifle-shotgun firearms are not prohibited for hunting these birds *so long as the rifle portion is not used in any manner.*

Too Stubborn to Quit

Despite such handicaps as slowness, obesity, short-leggedness and retarded brain, the opossum has survived for 70 million years.

A Little Meat in the Pot

By Ron Jones

DAWN BROKE slowly, reluctantly. It was a winter's dawn, cold and gray with that cloudy dreariness that only midwinter can bring. A faint breeze rustled the dry leaves that still clung to some dormant beech trees. Other than this there was silence.

Toby Green, just turned 18, shivered a little from the cold air, pulled his worn muffler tighter around his neck, and tried to huddle deeper into the hollow next to the big rock. Uncomfortable as he was, Toby hardly moved a muscle. He was watching the game trail on the wooded slope below him and today Toby Green was bound and determined to get a deer.

He had scouted this area for the first time two years earlier, had found the hollow spot where a man could sit and alter his silhouette to blend in with the large rock outcrop. The wind almost always blew into your face and the well-used game trail 50 yards below crossed a small opening which offered a clear shot. He smiled in spite of himself when he remembered the big buck which had fallen to his rifle that day two winters ago. His father had been proud of him. One well-placed neck shot had produced a swift, clean kill. That was the only way, he thought. Be sure of your target and make the first one count. Yes, that could be very important some day soon.

Now day was fully upon him. A gray squirrel scurried along on the crusted snow and paused occasionally to dig in search of an acorn hidden in the buried leaf litter. Snow birds chirped and flitted among the oak trees. But there was no sign of deer on the trail.

Carefully, Toby shifted one leg which was beginning to cramp on him. The squirrel stopped, sat up on his haunches and looked at him. Appar-

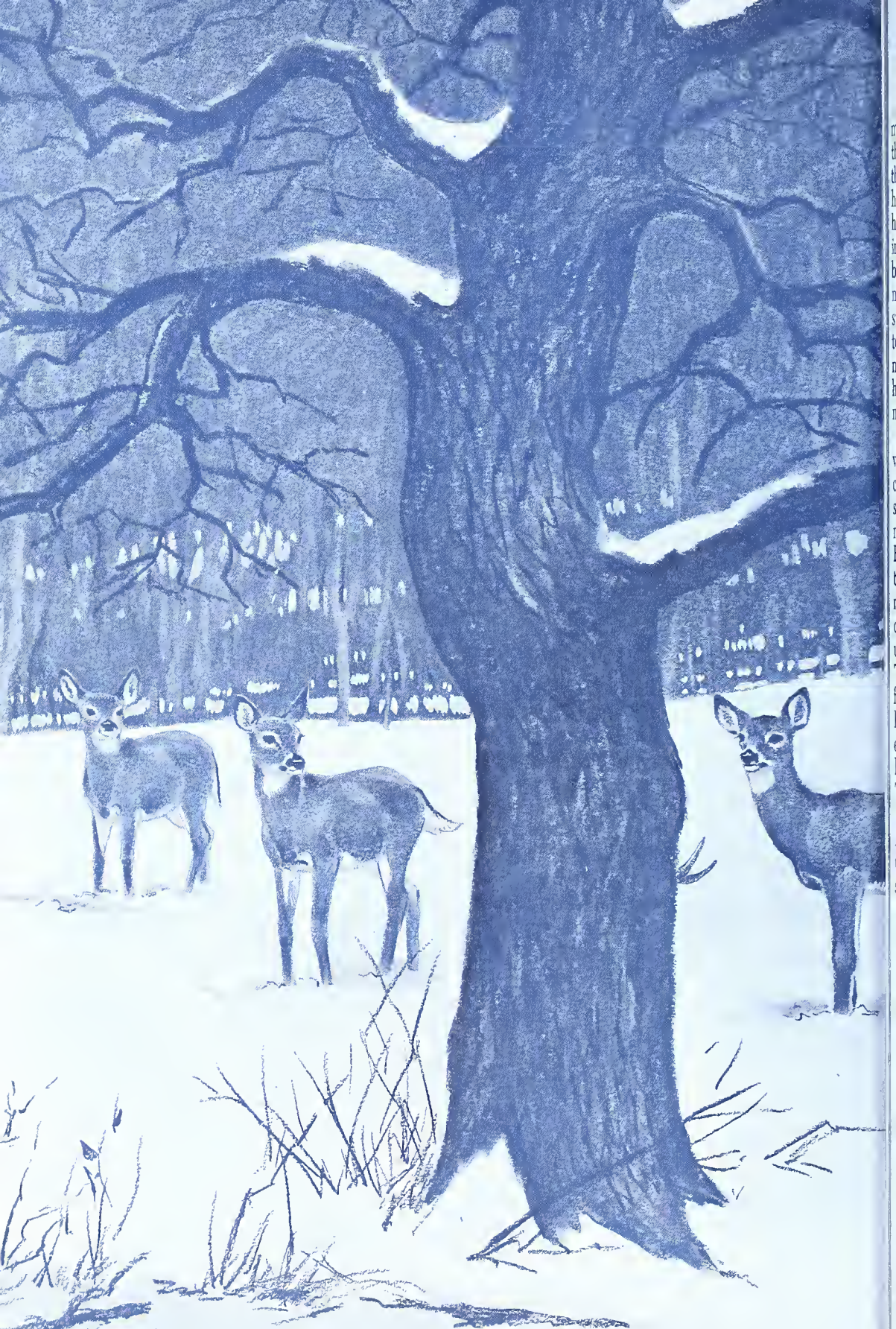
ently satisfied, he resumed his search for hidden nuts.

Toby allowed his gaze to stray from the trail and out over the valley below the ridge on which he kept his vigil. Winding through a corridor of willows and sycamore lay Valley Creek, a broken ribbon of ice and open water which threaded its way into Valley Forge. He watched one stretch of the creek which he knew was usually ice free, although the water itself was hidden from his view. Perhaps his deer was down there drinking. The game trail led in that direction.

On the Other Side—Home

His eyes searched farther to the south across the valley. There lay a long low wooded ridge; on the other side was Paoli and home. He could imagine his mother bustling about the large kitchen preparing breakfast for his two younger sisters. The stove would be warm and the odor of frying bacon and freshly baked bread would fill the room. Toby shivered involuntarily and suddenly realized he was very hungry. He had eaten no breakfast and had left his camp long before dawn in order to be on his stand at daylight. Slowly, so as to make no noise or sudden movement, he searched his pockets. He found a stale piece of bread which he had placed there the day before. This he now ate, and although it could not match his mother's cooking, it was better than nothing.

Again Toby studied the trail below him and again it was empty. There were many places between here and the creek where the trail passed from view behind hemlock stands or laurel thickets or dipped into small draws. A deer could be hidden in any one of these places. The urge became strong to get up and move, but he fought it down. He must wait.



PHUCK
PIPPER

It was funny, he thought, how a man out here alone does so much thinking. His father had told him that this was so when they had hunted here together two years ago, but he had paid little attention and was more interested in seeing a buck. Today a buck was equally important, maybe more so, but he had grown up a lot since that hunt and he was beginning to understand what his father had meant. Now his father was away from home. "When he comes back," Toby muttered, "we'll hunt together again."

But there was one thing that never would be again, and a sudden lump came to Toby's throat. He had been so busy lately that he had not thought much about his older brother, Thad. How had it all happened? One day they were a happy united family, the next day, it seemed, they found the country at war. Young men were volunteering and Thad went with them. Their mother was heartsick, but their father, although grim-faced, seemed to have a bright shine of pride in his eyes as Thad rode away. Many months later the news reached them that Thad was not coming home.

For just a moment tears welled up in Toby's eyes but he quickly blinked them away and tried to swallow the sorrow he felt. He was no longer aware of the cold and he almost missed the slight movement below him.

Instantly, Toby was alert and fully conscious of the situation at hand. Had he detected movement or was it his imagination? He saw nothing. Patiently he waited; the minutes passed by. Then—yes, there it was! An antler

tip! Just the barest tip was showing from behind that big red oak. The oak was at the edge of a laurel and hemlock thicket into which the game trail disappeared. The antler did not move, but something else did. Three does suddenly materialized from the thicket and stood in plain sight. They pawed the snow and dead leaves, they swished their tails, and they wagged their ears. They looked directly at the red oak tree.

A Monster Buck

And then *he* stepped out! Toby almost fell over when he saw him. Never had he seen so large a buck. He would dress out well over 200 pounds and the antlers had 12 massive points. So engrossed was he in watching that the rifle in his hands was temporarily forgotten. Then his composure returned and Toby Green was all business. He slowly raised his rifle, sighted on the big buck's neck just below the head, held firmly, and fired.

At the shot the three does disappeared into the thicket, but the big buck lay in his tracks. Toby had to take several minutes to limber up his cramped legs before he walked down to the buck. Quickly he dressed the animal and started the long drag back to camp. It was a couple of miles to Valley Forge, but he would bring that buck in by himself and present it to no one else but his commanding officer, General Anthony Wayne. The men of the Pennsylvania Line would have a little meat in the pot tonight. Why, General Washington himself might even join them!

Information on Antlered Does Needed

Female deer with antlers are of special interest to scientists. Anyone killing such an animal is requested to call, collect, Dr. J. Kenneth Douth, area code 412, 621-7300. He would like to examine the reproductive tract of the animal.



Wanted—a Bigger Buck

By Jerry Dietz

SLOWLY, head tilted slightly forward to keep my neck from rubbing the wool shirt collar and interfering with my hearing, I shifted my gaze around to take in another section of still gloomy woods. I'd heard something—something alive. But what? And where? I waited motionless, eyes straining, breathing shallowly through half-open mouth. My rifle, balanced easily, was weightless now, although it had grown heavy climbing the steep ridge. Even as my finger lay outside the guard to protect the trigger, my thumb caressed the safety.

Then I knew. Somewhere well within range, right at this moment, was a deer. I was as sure of it as I was of my own name. It had taken a moment's thought to place the sound—a hoof clicking on a stone—but there was no mistake. But strain as I might, I couldn't see the deer.

Several minutes passed. My face stiffened in the chill air and my body, half-turned, felt awkward. I cautiously moved my feet and then, after another wait, stepped up on the broad flat top of a pine stump. The light was growing stronger now and vague forms became solid tree trunks. Far below and to my right, on the dirt road along the far side of the meadow I'd crossed earlier, car lights appeared. I quickly looked away, not wanting my pupils to contract and momentarily blind me to the woods.

Then, a scant 60 yards away, a flash of movement caught my eye. My heart jumped but I didn't move a muscle outwardly. It was a deer—I'd seen its tail flicking across its rump—and it was feeding. Intervening brush hid its legs and head.

Without letting the animal out of my view, I carefully searched around it, looking for others. Though this deer was facing the wrong way to see me easily, a sudden move on my part could alert another animal and frighten both before I'd had a chance to look them over. But I saw none. I raised my rifle. The 4X Redfield improved visibility greatly, but even it couldn't show antlers when the head was out of sight. I kept the deer in the scope as long as I could hold the cross wires steady, then lowered it reluctantly to give my arms a rest.

Almost angry at the animal for not lifting its head—although I recognized the stupidity

of this—I shoved my arm through the sling and dropped into a sitting position on the stump. The cross wires settled down again and I waited patiently, comfortable now and sure I could make a clean kill. At that distance my outfit, a 7mm Magnum built on an FN action, would group a dozen 160-grain Sierra boattails on a postage stamp.

Moments passed. My hands grew cold and breath froze on the gun. Then, not too far away, a shot boomed. The deer lifted its head to listen. A rack showed.

At his first movement I'd thumbed off the safety. Now the cross wires settled snugly at the base of his neck and my trigger finger began its squeeze. I stopped it. That took a deliberate effort of will, for after enough shots have been touched off when the sight picture looks right, all actions become automatic. But I wanted to look over his rack. And after a dozen seconds, I reluctantly lifted the safety on again and, moments later, watched the deer slip out of sight.

Is a Deer Important?

I wiped my face. I hadn't realized that despite the December weather I'd been perspiring. I felt empty, washed out. My heart thumped, but tiredly, as if after long, dull exertion. I couldn't help grinning. You made a choice deliberately, I thought, and then it still bugged you. As if a deer were important. Even on the last day you had to hunt.

Of course, it was. I wouldn't go deer hunting if I didn't want to bag a deer. No sense trying to kid myself about that. A walk in the woods is one thing, enjoying the outdoors another, and deer hunting still a third. I don't believe in trying to do more than one of these at a time. So I wanted to get a deer. But not just any deer. The thing was, I wanted to take home a bigger deer than I'd ever got before.

In one sense, that shouldn't have been too hard, because, although I've hunted more than 20 seasons and have shot a deer or two, I'd never bagged anything outstanding. But the truth is, few people do, percentage-wise. My biggest whitetail was a mature 8-pointer taken in Sullivan County in 1946, my first season afield after three years spent in more serious type shooting during World War



I USED THE BUSHNELL 7 x 35s until I got too cold to sit longer, cased them and rose, shivering. The temperature was close to zero.

II in the European Theater of Operations. I'd killed smaller bucks before and after that, and was glad to get them, but this year set myself the job of collecting a bigger one. I didn't really expect to do it, but the restriction added spice to what was already a top sport.

Now my first two days were gone, my third and last was well dawned, and I'd just passed up the biggest buck I'd seen in several years. He'd had 8 points, but it was a tight rack without much spread or weight.

"So you let him go," I said aloud. "Hot dog, buddy, how's it feel to be one of those big trophy hunters like you read about in books?"

The ridiculousness of the idea made me laugh. Not that I wouldn't like to spend six months a year roaming four continents in pursuit of assorted antlered, horned and furred critters—almost everyone I know would—but for practically all of us it's impossible. Instead we settle for yearly jaunts after whitetails.

This season, trying to decide where I'd have a fair chance of connecting, I remembered that in years past I'd found the wooded hills in northern Columbia County

held their full quota of whitetails. Further memory probing brought back the image of a certain hollow west of the small town of Benton. A dirt road led through it. At a fork you kept left until reaching a wide spot. And then you parked, got out, crammed the Mauser full of handloads, crossed the wide meadow and forded a creek and started climbing a steep ridge. If you did this before daybreak, and did it quietly enough and watching the wind, your chances of seeing game were better than fair, for the hollow beyond acted as a funnel for deer which nightly fed in the farm country below and then returned to the woods to bed down. I was sure of this because I'd taken deer there on several successive years in the past. And I felt so sure of it as a deer-producer that I willingly made the 140-mile trip from my home near Philadelphia to back my hunch.

And now, less than 15 minutes after legal shooting time, I'd had an excellent chance at a deer and passed it up.

A Mistake?

That undoubtedly was a mistake, I told myself. Expecting more than one chance at a legal buck in the time I had available was enough to get me nominated president of the Optimists Club. On the other hand, if I had clobbered him my hunt would have been over and I'd have nothing to do but drag him to the car and drive home. And what fun was that? Besides, the goal I'd set myself remained. But it's hard to imagine how much effort it had taken to keep my finger from finishing that piddling 2½-pound trigger squeeze!

For some time I sat quietly, watching the light strengthen. Scattered hemlocks looked black and desolate; only occasional leaves clung to the oaks, ticking in the breeze that pressed along the ridge and evaporated the warmth I'd generated in my climb. I pulled the zipper higher on my down vest and waited a little longer, wondering if the shot I'd heard signified a kill or if it might push a buck toward me.

The wind died, and from the distance, almost beyond hearing, came the slow familiar roll of rifle fire. More proof of game in the area. I checked everything in view around me, then rose. Experience has shown it pays to look first and move second in still-hunting whitetails. Just the moment you don't expect to see one, he appears—and disappears an instant later, leaving you with a loaded rifle and a foolish grin. No one ever is ready for

them all, of course, but doing the best you can to keep the odds reasonable can be the difference between an unsuccessful season and buck chops in the broiler.

I worked through the second-growth trees and across the narrow flat top of the ridge until I could see over the edge into the hollow beyond. Part of it still was in shadow and I found a small log to sit on while I used the glasses. It wasn't far to my limit of vision, perhaps 150 yards, and the ranging qualities of my rifle weren't necessary; in fact, its high velocity could be a disadvantage in the thick cover common to much of the area. I lost a buck in the same locale one year because the high velocity spitzer bullet disintegrated on a sapling my old 348 wouldn't have noticed; but this big 7mm has been a lucky gun for me, giving a number of clean kills I really had no right to expect, so it's the gun I tend to reach for automatically.

Too Cold to Sit

I used the Bushnell 7 x 35s until I got too cold to sit longer, cased them and rose, shivering. The temperature had been close to zero when I stopped for gas several hours earlier and it hadn't warmed up much since. It wasn't too bad if I kept moving and the wind stayed down, but I wasn't dressed heavily enough to sit for long periods. It didn't matter. I don't have the patience for that kind of hunting anymore, although it's a productive method in heavily hunted areas where deer are kept moving by the hunters afield.

I moved up the hollow, just under the top edge. From there I could look down through the small hardwoods that grew too thickly to allow much visibility when among them. A shot sounded up ahead, and I wondered if I'd moved game into another hunter. That's a common occurrence in Pennsylvania, and annoys many men who dislike doing the dog work for a stranger; but it seems to average out; today you shove one in to him, tomorrow he pushes one to you.

Actually, it didn't seem likely I'd moved the deer. There was no noticeable wind, which meant whatever air currents might be in motion were imperceptible thermals caused by the slight warmth of the sun on the chilled hollow. These would be rising, but since I already was at the top edge of the hollow, my scent couldn't be lifted to a deer.

My boots made small noises in the crisp

leaves, but I didn't worry too much. Nothing moves in absolute silence in the woods, but so long as sounds are kept unobtrusive and irregular, sort of within the normal background "static" and fitting its pattern, it doesn't seem to startle game. Often it's possible to get within rifle range of deer. To do so, you have to keep watching well ahead, with only an occasional downward glance to pick a path; then, while the mind subconsciously reminds your feet where each downed limb and rock is, your eyes keep lookout for game.

Once in a while you'll see a nice white-tail standing broadside in full view at sling-shot range. Even if it seems unsporting, you might as well take him. In the long run you're doing the species a service, for obviously he's the family idiot and there's no use letting him live to perpetuate his kind. Besides, for every easy one, normal white-tails will make a fool of you dozens of times. This is a good thing for superior beings like you and me, perhaps the most worthwhile benefit to be gained from deer hunting. After spending 50 weeks a year being subtly brainwashed into believing old *homo sapiens* is the greatest invention since the repeating rifle, it's good to get an occasional comeuppance. Keeps things in proper perspective.

I hadn't gone a quarter mile when something below and in front caught my attention. I hesitated, backed up just a whisper and concentrated my gaze. Something wasn't right, something down there didn't quite belong. It wasn't far, maybe 80 yards, but I couldn't be sure what it was. I wanted to use the scope but was afraid to move. Finally I recognized what I'd seen—the inner curve of a deer's hind leg, almost perfectly camouflaged in its natural surroundings but still a little bit different because it was alive.

Long Moments Pass

Long moments passed soundlessly, quickly at first, then slower as my excitement paled and I became chilled. Neither of us moved. Strain as I might, I couldn't see any more of the animal. And I was certain it had seen, or at least heard, me.

It was a doe, I thought. I'd seen one buck and others had shot at two in the area since first light; there just weren't so many bucks that I'd see another. But I couldn't be sure. No matter how I bent or twisted, I couldn't make out that animal's head.

Suddenly I was afraid it would disappear before I could look it over. The urge to use



I RAISED MY RIFLE. THE 4X REDFIELD improved visibility greatly. Moments passed. My hands grew cold and breath froze on the gun.

the scope was so strong it was almost physical. Why not, I asked myself, knowing at the same time that the deer's gaze probably was riveted on me and that such a radical movement, completely altering the outline of my body and introducing new dimensions to it, would send the animal sneaking away unseen.

So it'll go, another part of my mind argued. When it moves, you'll see it; if it's a buck, you shoot, if it's a doe, it doesn't matter. Otherwise you'll just stand here till you congeal.

Flash of White

My arms slowly raised the rifle. At the halfway point I saw a flash of white down below. Then, though I flipped the scope to cover the spot, the animal disappeared before I could be certain what it was. It didn't go in a flashing run, choosing openings that might permit speed while at the same time giving me a clear view and, possibly, a shot, but rather sneaking away through the thick stuff, tail down, head lowered.

"Man, you're a bright one," the little guy who lives inside me said. "Deliberately scare

a deer away before you even know what it is."

"I'd have seen the antlers flash if it was a buck," I argued.

"Baloney. Even if you did, you couldn't have hit it."

"... maybe you got something there."

I couldn't help grinning. Somehow I was glad that deer had beaten me. Or I'd beaten myself by defaulting to him. The result was the same. But he had won the big prize, for it was his life on the line. Me, I was just a dilettante now. But I could remember times it had been different, when the roles of hunter and hunted were reversed, and we'd played out the string and won; that proved it could be done when the stakes were high enough. And maybe that's why we didn't mind being just a trifle generous now. It didn't cost much.

I continued my circuit of the hollow, moving slowly, occasionally sitting down to use the binoculars, but without positive results. The only living thing I saw besides several crows was another hunter. I decided to cross the ridge ahead and drop down into some heavy cover around a wide bend in

the creek. The cold might have shoved some deer in there out of the wind.

But although sign was plentiful, I couldn't get a line on a buck. Twice I saw flashes of white tails, but that was all. The tangles were just too thick. Years before the area had been cut off and the unwanted tops and limbs left where they fell. Clumps of brambles, greenbriers and blackberry bushes had flourished amid patches of scrub pines, along with brush willows along the stream and hardwood slashings throughout. Eventually I realized what I hadn't wanted to face up to earlier: expecting to get close to a buck there was ridiculous.

For a minute I considered climbing one of the scattered white pines and sitting awhile where I could look down into the tangle, but decided against it. That's too much like bushwhacking, I told myself. But the little guy inside said, "Why don't you be honest? You're too lazy to climb the tree and don't want to sit still in the cold." I didn't bother answering. Nothing's to be gained by arguing with yourself indefinitely, but sometimes it makes me wonder if I was meant to be twins, am an incipient schizophrenic or am just bugged by a passion for truth.

Back for a Sandwich

About 11 o'clock I decided to head back to the car for something to eat. I'd made a wide semicircle, working through several kinds of cover and booting out three does, but they weren't legal game of course. I didn't want one anyway. No rack at all was a long ways from the 8-point minimum I'd set myself. With each passing minute I knew my chances of filling that objective were going down the drain, and at odd moments the thought that I'd been stupid for passing up that early-morning buck flashed through my mind. But no one except politicians writing their memoirs can change the past, so it did no good to dwell on it.

When I came out of the woods into the meadow, hunters were dispersing at intervals along the road. I knew they were preparing a drive. One watcher was near my car when I got there. "How's it going?" I asked.

"We got one this morning. A big spike."

While I ate a sandwich he told me the gang had collected four bucks, counting the spike, since the season opened.

I thought any shooting would go to the drivers rather than those on watch, as deer often are reluctant to leave cover to cross

open fields, but suddenly a blast of gunfire came from the man stationed near a small gully about 100 yards away.

I jumped up and the nearby watcher swung around. For several seconds we could see nothing. The shots continued—too fast for a bolt action—and at the fifth one a deer came out of a dip in the meadow, racing in overdrive for the ridge I'd hunted earlier. He was about 175 yards from us, moving almost broadside.

"I can't see any horns!" the man near me shouted.

I couldn't either, even through the scope. Then the deer angled away and sunlight hit antlers that had been hidden by his ears, either spikes or small forks.

"He's legal!" I yelled, and the other hunter ground two shots from his 35 Marlin before the buck got into the woods.

"Too far for me," he said. "Why didn't you shoot?"

"I don't like trying for a deer somebody else's drive put out."

"What's the difference? Bill emptied his gun and I shot twice. We had our chance."

I SPENT MINUTES JUST admiring the buck. I'd never bagged a bigger white-tail. It wasn't a record rack but was by far my best.



I didn't try to explain I wanted a bigger one. He wouldn't have believed me and I wouldn't have blamed him.

Back to the Ridge

The drivers came out a short time later, joined the watchers and they all left. I headed back to the ridge. I was convinced it would be lucky for me. Even if I didn't see a big one, I knew at least two bucks were in there now. Maybe—

After climbing and crossing the ridge, I worked right instead of left. It was warmer now, which made it easier to move quietly as my muscles weren't so tense. I angled around the hill until I came to an old tote road probably dating back to the time the original timber had been logged off. I followed it awhile and then dropped below to a small bulge where I could sit in the sun and glass the opposite hillside.

Nothing showed. With no wind blowing, it was warm enough to make me sleepy and I yawned. It wouldn't hurt to catch a few winks, I thought. No deer moving this time of day. But when your hunting time is limited, you feel guilty for not taking full advantage of it, so I shoved the Bushnells back into their case and got to my feet. I'd cross the hollow, go over the hill and work back in a circle opposite to the one I'd taken in the morning. There was just a chance I'd get close to one in his bed if I took it easy.

I was only halfway up the opposite slope when just in front of me a small patch of brush seemed to explode! The buck came out at full speed from a lying start, head pulled back, big antlers flashing in the sun. The whole scene was just a blur of controlled

power, but I knew instantly that he was big enough for me. My own motions, swinging the rifle, thumbing off the safety, seemed in slow motion compared to his. But somehow I caught him in the scope, saw the muscles bunching and stretching under his tawny hide as he drove around the flank of the hill. His rack looked the biggest part of him. I swung the rifle like a shotgun and squeezed. My bullet went somewhere over his back. Automatically, I jerked the bolt open, rammed it shut. He'd turned uphill at the shot and I swung and squeezed again, concentrating so hard I felt no recoil, heard the muzzle blast only as a whisper in the distance.

He went down as though struck by a thunderbolt. One moment a tremendous driving animal; the next, collapsed as if every muscle in his body had been severed.

I approached cautiously, a fresh load in the chamber, not sure if I'd just grazed his skull or what. But the Sierra spitzer had centered the neck for an instantaneous kill. My breath went out in a long sigh.

I put on the safety, laid down the rifle, then spent a couple of minutes just admiring the buck. I'd never killed a bigger white-tail. Maybe 180 pounds on the hoof, I thought, with a wide-spreading 8-point rack of heavy beam. It wasn't anything like a record, of course. Nobody kills record white-tails. But it was much bigger than my previous best rack, so I'd made my goal after all, and who could ask more than that? One thing I decided on, even before I took out my knife to field-dress him. I wasn't going to wait for a bigger one before shooting my next buck.

Warning on Destructive Shooting

Each year public utilities incur heavy damages to overhead cable systems and the general public endures numerous hardships as a result of hunters indiscriminately shooting at insulators, poles, transformers, etc. In addition, traffic signs, warning posters and even billboards become targets for irresponsible shooters. The Game Commission warns shooters that it is unlawful to damage real or personal property, and hunters face fines and possible loss of hunting privileges for damaging any property.

Big Percentage Increase

The recent survival of six whooping cranes hatched in captivity brought the total number of captive whoopers to a record 24. Approximately 50 remain in the wild.



JIM TALERICO HAPPILY CLUTCHES the antlers of his ghost buck, as if to make certain it won't vanish into the snowy woods.

The Ghost of Jim Gray Hollow

By James Talerico

“WITH THIS SNOW we ought to get some bucks tomorrow,” said my best friend, Jerry.

It was the evening before the opening day of the 1969 buck season, and we were having our usual planning session on where in our Tioga County hills we were going to hunt. But regardless of the number of suggestions we made for new areas, we always end up hunting big Mount Tom near Ansonia. Those steep sidehills covered with laurel and oak have always been a prime producer of trophy bucks. We'd even heard of an albino that was hanging around Jim Gray Hollow, which is located on the back side of the mountain. Some fellows said he was so white that he just appeared out of the mountainside when there was a good snow. “A ghost, he is,” said one old-timer. “He's not really there at all, you just think he is.” You couldn't help but wonder about the stories.

After all, this would be the third year he was running that area.

The conversation turned to more realistic facts, such as where we were going to drive and who would make the long climb to the top. A few smiles from some of the older members of our party told us who would be top men most of the day.

Morning came early, with gray skies and light snow flurries. A perfect day, I thought, as we walked through the soft snow to Jerry's station wagon. There was little conversation as we headed for our destination. Everyone was engrossed in his own thoughts. I couldn't help picturing monstrous bucks leaping through the mountain laurel with their light-colored racks sticking high above their ears.

The slowing down of the wagon as it pulled off the road brought me back to my senses when before us loomed the big face of Mount Tom. “Okay,

now," said Guy Morral, looking at his son Jerry, "you take Jim and Lee to the left side and push it back to Cole Furman Hollow."

The climb to the top was long and tiring, but the fever of the hunt kept us going. Once on top we could look for miles out Route 6 and down into the beautiful white-laden hills of Pennsylvania's Grand Canyon.

About 20 minutes lapsed until Jerry's long, drawn-out yell signaled the drive to start. We got occasional glimpses of deer as they broke from the branches and into the thicket below. We were almost to the watchers when two shots echoed through the hollow. Boy, I thought, a buck on the very first drive! I didn't waste any time getting down to where Guy and Jimmy were standing.

"You won't believe it," said Jimmy, "the white one and he wasn't more than 60 paces away!"

"How big was his rack?" I asked, as we started walking toward the other men waiting on the old logging road. "About a 6- or 8-pointer," said Jimmy, shaking his head in disgust.

No Encouragement Needed

It didn't take much encouragement to convince the rest of the gang to drive for the white buck. Guy noticed that he ran differently than a normal deer. His back feet landed more to the side of the front ones than was normal.

The drive that followed in Gibson Hollow didn't produce any deer, but the determined looks on the men's faces were enough to tell me we were far from finished.

"Well, fellows," said Guy, "we'll push the sag of Jim Gray Hollow. That buck may have gone directly over the ridge and into the thick laurel on the close side."

Jerry, Goldie, and I headed down the ridge, where we met a hunter who told us he had seen the buck break over the top and into the sag, but he hadn't been able to get him in his scope. Now that we knew the buck was between us, we figured one of the

watchers ought to get some shooting before long.

It wasn't long before we heard Jerry's familiar signal. The laurel was a good five feet high, accented by scrub oak. On we plodded, occasionally giving out with a yell to let each other know where we were. It seemed an eternity before I reached the side-hill and started my climb toward the point. The snow was swirling down in spiral masses, making visibility almost zero.

A cold spring bubbling from the hillside was a welcome sight. Just as I bent down for a drink, I heard one shot to my left, followed by two around the far side of the point. I strained my eyes to get a glimpse of movement in the high laurel fringing the crest of the ridge. Suddenly I noticed a patch of white moving leisurely along the draw. A moment lapsed and there, silhouetted against the gray skyline was a beautiful white buck looking casually over the valley below. Like a king overlooking his domain, he carefully scrutinized each trail as though he knew someone was invading his kingdom. Without warning, he dashed toward safety on the far side of the ridge.

I knew my only chance was for one quick shot as he passed between the openings of a small stand of scrub beech. As my Browning 30-06 broke the silence, the ghost disappeared. With perspiration streaming down my face and my heart pounding furiously, I raced up the hill, straining my eyes for only a glimpse of this trophy. Almost at the point of giving up search, I happened to notice tines sticking up from behind an old deadfall. Slowly and cautiously I approached through the powdery snow toward where the fallen trees were located. Was it true—had I killed the king?

Yes. There he lay. A feeling of sadness swept through me as I looked at this beautiful white coat accented by his 8-point rack. But I knew he would live on for years in the hearts of a lot of hunters—especially me.

Granddad's First Buck

By Jack Ryan

IT WAS A clear, chilly December morning, the fourth day of buck season. I had some work around the farm that had to be done that morning, so I couldn't get out early. About 11:30, I took my rifle and told my wife I would go to the mailbox. She said, "Bring a buck in with you, lunch will be ready at twelve."

Our mailbox is nearly a quarter of a mile from the house. By taking a roundabout way, I could cross our brushy field on my way there. This field is only a couple of hundred yards wide, with a deep hollow running down through the center. I was nearly down in the hollow when a movement caught my eye. I looked up and just saw the flag and hindquarters of a deer leaving that part of the country. It was in thick scrub oak, so I had no chance to see its head, but from the direction it was headed, it would have to cross a 40-acre field.

I put on my best speed up out of that hollow to the edge of the open field. To my surprise, the deer was nowhere in sight. I just couldn't believe that any deer could cross that much open ground in that short time, but this one certainly had vanished.

Disgusted, I looked in the mailbox and started back the lane to the house. Then it sank home. While I was coming up out of that hollow, the deer had doubled back the way it had come. I had to smile, for now I was sure it was a buck and a smart one. Way down deep, I was glad that he had outsmarted me, for had I shot him, I couldn't hunt him again.

I was nearly to the barnyard when I heard a shot and then another. I hurried past the barn and saw a man in the lower corner of our field. He was down on one knee, aiming. Then I heard the report.

The field has 25 acres in it and is

nearly flat. I was just ready to step on the porch when I heard the man start hollering. I stopped and listened, but it is so far across that field, I couldn't make out what he said. I went into the house, believing he was calling for his buddies. A large white oak tree stands in the corner of that field and it seems to be kind of a meeting place for gangs after they drive the cut-over section bordering the field.

Some Hunter!

When I opened the door, my wife started kidding me for being some hunter. While I was gone, four deer had crossed back of the barn and at least one was a buck. The hunter down in the corner of the field had shot at it.

I ate my lunch, and then, for some reason, got up and looked out the kitchen window. I could see that hunter. He was now about a hundred yards up in the field from the corner. I watched and he walked on up a little ways, bent over, and then turned around and walked back. Then, he started back up again, but stayed bent over like he was looking for something on the ground. I realized he was pulling something.

"That hunter got the buck," I said to my wife. About that time, he straightened up again. I could see that he was wearing a red vest. Then I recognized him. I grabbed my hat and coat and started for the door. My wife said, "Are you going to help that man?" "You bet I am," I hollered back. "That's Granddad and he's got a buck!"

I ran across the field. Granddad had just carried his gun up another relay. The first thing I said was, "Did you get him, Grandpa?"

He was smiles from ear to ear. "Look at this fellow!" he said.



We walked back to where he had left the deer, and I quickly saw why Granddad was all smiles. He had got an extra large buck with a very even rack of 4 points to each side. I was more than glad that the buck had outsmarted me, for Granddad was 78 years old and although he had taken a doe nearly every year that Pennsylvania has had an open season, and is still, despite his age, one of the best shots in these parts, this was his first buck.

I helped him drag it up to the house. On the way up, we both thought it would weigh about 200 pounds. When we laid it on the scales, it pulled a fraction over 200, field-dressed.

I asked him to tell me the story of how he got it. As well as I can remember, these are Granddad's words: "I started out this morning and did a lot of walking, but not much hunting. Every place you looked there were hunters. I had made a large circle and was heading back toward home, when I stepped into the corner of your field. A doe and two fawns were coming down through it. They nearly ran over me. I was watching them when I heard a noise and turned my head. There he came down along the fence, right out in the open. Why he hadn't taken to the woods, I'll never know.

He quartered away from the fence across the corner of the field. He was passing me at about 50 yards, when I let him have it. Down he went, but he got up on his front legs and tried to go. I was afraid he'd get away, so I gave him another load. He didn't try to go anymore, but still held his head high. I came in close, dropped down on one knee and shot him again. Then I hollered at you, but you paid no attention."

A Real Nice Deer

When he had finished, I could feel the lump in my throat that always comes when a really good buck goes down to stay. I think that Granddad had that same feeling, for we were both silent awhile. Then I said, "Granddad, it will probably be a long time before you get a nicer one." He only nodded.

We loaded it on my car and I took it home for him and helped him field-dress it.

When I got back home I said to my wife, "I'm sure glad I didn't get that buck. Granddad has hunted patiently for many seasons without ever seeing a buck."

"He was the proudest man I've ever seen," my wife said.

I will be too if I can get a trophy that nice when I'm his age.

Birdlife Book Available Again

Pennsylvania Birdlife, one of the Game Commission's most popular publications, is again available to the public. The sixth edition of the book, originally written by Leo Luttringer, includes beautiful color plates by wildlife artist Ned Smith. Game birds, water birds, birds of prey, summer birds, waterfowl and marsh birds are all shown in natural color. The text of the publication is a comprehensive reference work covering all aspects of birds found in the state, showing their relation to the economy and how they fit into the environmental picture.

Despite increasing costs in printing, postage and handling, the price of the 128-page, profusely-illustrated soft cover book remains at \$1 per copy delivered. *Pennsylvania Birdlife* can be obtained at any of the six field division offices of the Game Commission, or by writing to the Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa. 17120.



THIS HUNTER MOVES SLOWLY, SOFTLY, through the forest, eyes searching endlessly, following a path that no one else can see. . . .

The Lonely Hunter

By Richard R. Douglas

A FEW DECADES ago, when I began deer hunting—it was in the '30s, which seems a long time ago but actually isn't—practically everyone hunted by driving, a method of hunting by organized groups of men, approximately half of whom wait and watch on stands while the others “drive” the deer to them. Hardly anyone seems to hunt that way anymore, and I've wondered why, for that's how my father's generation did it, how I began, and how it seemed it would be done forever in Pennsylvania.

Thinking about it has forced some conclusions upon me. They might be wrong, they might be right, or some of each. Regardless, I feel they have

importance, because they illustrate some of the reasons hunting fits so integrally into our lives, and to understand this could well lead to a better understanding of ourselves, and that always seems a worthwhile goal.

Looking back to the '30s, and even earlier via the faded photographs we sometimes find in albums, we can visualize sturdy weather-beaten men in brush-whipped clothing, usually carrying the dependable lever action Winchester, Marlin and Savage rifles. Many of those old rifles are still around, but except in memory we can't have the other things that are gone. We could have some of them—the driving, for instance, if we wanted it. But the fact of the matter is, we

his long hours on the cold trail. For him, it's easy to abandon the company of a dozen for the companionship of perhaps one silent blood brother—or for only the wavering flames of a tiny fire wherein he can search, perhaps fruitlessly but always hopefully, for his own beginnings in the hunters of countless eons ago.

Hemmed in by endless mountain ranges, trackless forests, bottomless swamps, all enveloped by a vast darkness in which his campfire is but a pinprick of orange, this hunter feels in his blood his kinship to the past. The acridness of his fire's smoke touches his nostrils as it touched those of untold millions before him; the metallic sound of its falling embers—a counterpoint to the night wind that bends the black pines above and sends filmy cirrus clouds scudding across the low-hanging moon—has not changed from that once heard by a fur-clad Neanderthal man whose bones have long since turned to dust, but who now (who knows?) may be smiling down from some Hunting Ground we've yet to see.

At times the lonely hunter is sure of this. For though warmed on face and hands by flames and embers, always, pressing in from the rear with the chill of the night and the darkness, is an awareness of the unknown—the country beyond, whose streams have never been mapped, whose trees have never felt the bite of an axe, where sunlit meadows sparkle but where shadowed woods have never been fully plumbed by a midday sun. Here waits . . . what?

Here is his lodestone, here the lonely hunter must go, to find the Red Gods in their lair, to meet again . . . who?

He doesn't know. But he believes they wait for him and that he can



A TROPHY? WELL, sometimes there is a trophy, a fat, heavy-antlered buck cleanly won. More often there is not. But that doesn't matter.

discover the way in the secrets of his hidden campfire, follow the trails on shoepacs shod with silence, until finally . . .

A trophy? Well, sometimes there is a trophy. A fat, heavy-antlered buck, cleanly won in fair contest. More often there is not. That doesn't matter. That isn't really why this hunter moves slowly, softly, through the forest, eyes searching endlessly. He's following a path that no one else can see.

Plus a Few Dozen for Dessert

A flicker may consume as many as 5000 ants in a single day.



DON WATTERS, New Castle, and his 8-point, 218-lb. Lawrence County buck.

DR. J. K. YOUNG and son Jerry, large 8-point bucks from Bradford County.

Pennsylvania

DICK PLACE, Laceyville, above, with his 10-point buck. Below, Wayne Stahler, Halifax, and Joe Nell, Wormleysburg, with archery trophies taken while hunting together.



JIM GITTINGS, Cornwells Heights, got 8-point, 21½-inch-spread trophy in Pike County. It scores 158 points by Boone & Crockett method.



GAP PUCHE of Telford, above, with big Schuylkill County 8-pointer. Below, Martin Maines, 13, and his 10-pointer, with brother Marvin.





...y, Canton, with their pair of
...rd County.

Whitetails



DICK KREUTER, Zanesville, Ohio, and sons **Ron** and **Gene**, top, with McKean County trophies. **John Basilone**, below, with another McKean County buck. Bottom, **Ralph Pratt**, Titusville, and his 12-pointer from Crawford County.



JOHN WELLIVER, Ulster, with his 10-point archery buck, above, and **Harry Steinbach**, Doylestown, below, and Clinton County spike taken with muzzle-loading rifle.





FIELD NOTES



Real Progress

VENANGO COUNTY — We just finished participating in a conservation camp program along with the Fish Commission and Department of Forests and Waters personnel. This camp was a bit unusual in that an entire school district, with school board approval, transported all their sixth grade students (180) to a Boy Scout camp every day for a week, for conservation education. Clarion State College also cooperated in the program by sending student teachers to assist the regular teachers. I believe this is the first school district in the state to start a program involving a week's camp. Hats off to Cranberry School.—District Game Protector L. E. Yocum.



Aw, Come On

HUNTINGDON COUNTY—A paper wood cutter working along the road on State Game Lands 121, Huntingdon County, stated that the top of his head was sore from so many acorns dropping on him while cutting trees.—Land Manager W. H. Shaffer, Huntingdon.

If the Boot Fits—

SNYDER COUNTY — Constantly, the Game Commission strives for more open land for the hunters in Pennsylvania. It becomes increasingly difficult to convince the farmers of the state to keep their land open for public hunting because of the acts of a few irresponsible and unappreciative hunters. Time after time we are called because someone has cut a fence, smashed a fender, trampled crops, shot alongside the house, injured livestock, left bars down so cattle got out, drove on fields, blocked means of ingress and egress from fields, plus a host of other things. Hunters and sportsmen—it is time to take a long hard look at yourselves before all the land in the state is posted. Police your own ranks and help stop some of these thoughtless acts, before it's too late!—District Game Protector J. P. Shook, McClure.

It Never Does

LEHIGH COUNTY—On the opening day of dove season, Deputy Jack Sulzer and I pulled into a parking lot on State Game Lands 205 and there sat a friend's station wagon with the right rear tire flat as a pancake. I got out my camera and took a picture of the flat, making sure that I included the license number, hoping I could later send the photograph to him and we would all have a laugh. Not too long after this, Deputy Sulzer and I stopped for coffee. When we came back to my car, it had a flat tire. Deputy Sulzer thought it might be appropriate if I took a picture of my flat, but somehow it didn't seem quite so funny.—District Game Protector J. R. Fagan, Allentown.

don't hunt that way anymore because we don't want to. The oldtimer looking backward remembers and misses the teamwork and comradeship that were part of the hunting days of his youth, the fellowship of friends in camp at night, and he wonders where this spirit has gone and why. The younger hunter not only doesn't miss it, he has no yearning for it. The time may come when he will, but at this time he doesn't. Many of today's hunters are loners. That's the way they want it.

Time Factor

One reason for the abandonment of the oldtime hunting crews is the time factor. To be able to go into the woods at Thanksgiving and not come out until the middle of December just isn't possible for most of us nowadays. And if we're to be honest, even in times past probably the majority of hunters who could manage this were farmers, men whose heavy work was largely out of the way after the fall harvest. This suggests another reason for their wish to hunt as a group—perhaps something of a psychological reason. Being part of a hunting crew was a change from their normal life and work. Instead of laboring alone or with a hired man, they were now part of an organized, if temporary, group—actually a small cultural entity—with all of the advantages which a sense of belonging and a common goal can bring.

Today it is different. Most of us spend 50 weeks a year working as part of some industrial team. When we finally get a few days off, we don't want more teamwork. We want to be alone. Nowadays one of the most desired conditions in life, and one of the hardest to obtain, is a bit of privacy. After countless committee meetings, discussion groups, organizational set-ups, coordinated efforts, etc., etc., *ad infinitum*, *ad nauseam*, we've got a bellyful of togetherness. What we want is to escape from the civilized world. Everyone knows that the big

thing wrong with civilization is civilization. What we want is a chance to return somehow to the primitive state. Not the mere two or three decades to our oldtimers' well remembered yesterdays, but dozens of decades to the time of Boone and Crockett, to the time when a man truly walked alone.

This isn't completely possible of course. But we can try. Some of us have to try. And hunting offers our only chance.

During the past 25 years, millions of us have finished several years' service in the Army, Navy or whatever, probably the ultimate in enforced teamwork. Maybe that's another big reason why so many rebelled against more of it in the gamefields at home. At any rate, it seems to have been about that time that the big swing away from traditional deer camp life

FOR SOME HUNTERS, to return at night to a warm cabin and a hot meal is too much a return to civilization, too swift a shattering of the wilderness mood.



and team hunting got under way.

It happened to my group. Before World War II, we drove. Now we don't. And it isn't simply that we've gotten older, for we abandoned it completely immediately following that war, at which time we weren't as old as we are now, by approximately a quarter-century. I suppose that first year after our discharges, as we headed for the snug little cabin in the northern mountains, we assumed we'd go back to the old methods. We didn't really discuss it specifically, though we did spend many evenings during the months before the season opened talking about the hunt coming up, reliving past years, and so on.

Needed to Be Alone

But a funny thing happened. After breakfast that first morning, we stuffed some sandwiches and candy bars in our pockets, shells in the guns, said "So long," and each headed off a different direction into the woods. We didn't even tell each other what sections we intended to hunt. We just went. Alone. Togetherness? Organization? Cooperation? None whatsoever. We hadn't returned to the hills for more of that, but rather to get away from it. We needed to be alone.

There are obvious disadvantages to this kind of hunting. Deer which move away from a lone hunter are pretty well gone, whereas if two or more are covering the same area, someone may get a shot as the animal moves into him. And if one does connect, he has help getting the deer out. Nevertheless, we never even considered such cooperation, and when Harry did poke a bullet through a fat 4-pointer's ribs he was over a mile back in a frozen swamp with night coming on. He got his deer out though — alone — and now, looking back, he has the pride that comes with the remembrance of doing a tough job on his own.

There's another problem that must be considered. Safety. It's quite possible to have an accident in the

woods. A broken leg, a fall that knocks you unconscious, even a heart attack. In any such emergency, it certainly is advantageous to have a friend or two nearby. But stop and think. When is the last time you broke a leg in the woods, or had a heart attack? Are the probabilities such that they should overbalance your need for aloneness? If they are, stay with the group. If not, consider the benefits—in self satisfaction based on self reliance, if nothing else—to be gained from facing the problems of the woods on your own. You must, of course, have the basic abilities in woodcraft to keep you from getting lost, or panicking if you do get lost, and obviously you must have the desire to be alone at this time (it's quite possible to want to hunt with a group one time and want to be alone another).

Often, among the group that hunts from our cabin, everyone seems to be doing something different. Some just stay around the place, eating, sleeping or playing pinochle. Others mosey around in the woods, half-heartedly hunting but not really caring if they shoot anything. At times, some put on small drives, using their knowledge of deer habits within these limited areas to bring home some venison, without getting into the old military style group driving. This setup seems to have something for everyone, and everyone has plenty of good food to eat and a warm place to sleep.

But that's not enough for a few. Even when one of these hunters can spend the days ghosting along hardwood ridges or edging through gloomy swamps, rifle ready, moving into the wind at a snail's pace, deciding on his own whether to follow or try to outflank the buck that made those deep fresh tracks in the snow—even that's not enough.

For such a hunter, to return at night to a warm cabin, a hot meal and cards is too much a return to civilization, too swift a shattering of the lonely wilderness mood built up by

Thinkers

CLARION AND JEFFERSON COUNTIES—The recent emphasis on air and water pollution is really beginning to show in the Knox area. Two small girls were walking down the street and when they came close to the doctor's office each covered her nose and mouth with her hands and ran past the door. An observer thought there must be disagreeable odors in the area. However, he was surprised when he asked why they did that and they replied, "We don't want to breathe any germs from the sick people in there."—Land Manager L. L. Harshbarger, Knox.

Monarchs

ROSS LEFFLER SCHOOL OF CONSERVATION—Recently, the class visited Pymatuning for instruction in waterfowl identification and management. As might be expected, we observed several thousand migrating birds. We were fortunate, and surprised, to also see one of nature's most unusual migrations, that of the Monarch butterfly. This was something most of the class had only read about, and observing the vast number of these insects was very impressive—Trainee Andrew C. Martin.

Interested

ROSS LEFFLER SCHOOL OF CONSERVATION—I was amazed at the number of people who attended the recent open house at the Training School. Many persons who had no friends or relatives in the school drove well over a hundred miles. When asked if there was anyone or anything in particular they would like to see, the answer was, "No, we just came to look around." It is gratifying to see so many people interested in the conservation work.—Trainee Harry E. Richards.



Time to Take Up Golf!

CUMBERLAND COUNTY — Several months ago I sent in a Field Note about the groundhog hunter whose car rolled into a farm pond. Talking to this unfortunate gentleman at a recent sportsmen's meeting, he related another incident which happened to him while hunting groundhogs. After finishing hunting for the day, he packed his equipment into his vehicle, got in and drove off. After driving several miles, he glanced around at his back seat and noticed his rifle was not there. He returned to the spot where he had been parked. Sure enough, his rifle was there on the ground. He not only had forgotten to put the firearm into the car, but had laid it in front of the car and driven over the rifle and scope as he left.—District Game Protector J. P. Filkosky, Mechanicsburg.

Tough Luck

LEBANON COUNTY — A nice 6-point buck was killed on the first day of archery season when hit by a car driven by Kay Kreider, Palmyra. After she calmed down, she felt rather badly. Not because of the damage to her car, but because it was a nice buck that some sportsman would have been proud of bagging.—District Game Protector P. A. Hilbert, Lebanon.



Makes It Worth the Effort

MERCER COUNTY — Sometimes, with all the work involved in setting up a large wildlife exhibit, we forget the many rewards we gain. This September we had 21 different wild birds and animals on display at the Stoneboro Fair. A 13-year-old boy from Newark, N. J., told me it was the first time he had seen a wild animal. An elderly man said upon seeing the beaver, "Look at the groundhog." A kid wanted to know who let the "gas" out of the skunk. Giving hundreds of children the chance to see wildlife at arm's length made it all worthwhile.—District Game Protector B. K. Ray, Sheakleyville.

A Little Much

ALLEGHENY COUNTY—On September 3, at 11:15 p.m., Deputy Tony Logar's wife answered the telephone and a woman wanted to speak to the Game Warden. Tony was sleeping at the time and his wife wanted more information before calling him. The woman said she had a pet duck, and that she was going away for the Labor Day weekend and she would like him to pick up the duck that evening and she would take it back on Tuesday. Thanks to his wife, Tony didn't hear this story until the following day.—District Game Protector J. W. Way, Coraopolis.

Can't Win Nohow

CAMERON COUNTY—For the first time in 24 years during any hunting season, I took my wife and son out to a restaurant for dinner. You guessed it—I was called away from my meal before it was half over and never got back to my headquarters until 8:30 the next morning.—District Game Protector N. L. Erickson, Emporium.

This Is Logic?

BERKS COUNTY—Friday evening prior to archery season, I received a phone call from a worried hunter. The man wanted to know if it was unlawful to hunt with a bow type quiver without a cover for the broadheads. I informed him that although it is very dangerous, it is not against the law to do so. The man breathed a sigh of relief and stated that he had stopped in all the sporting goods stores in his area that day but received conflicting answers, so he decided to call a Game Protector. I again explained the danger of hunting with exposed arrowheads and asked him why he just didn't buy a cover when he was in one of the stores. "Oh, well," he said, "it just doesn't make sense to get one until they pass a law requiring it."—District Game Protector J. K. Weaver, Kutztown.

Always a Joker

ROSS LEFFLER SCHOOL OF CONSERVATION—During our last first-aid class, we were applying different types of bandages and splints to each other for practice. A leg splint was applied to Trainee John Heider, and when asked if he could feel the pulling effect on his leg he answered, "So much I will have to have lifts put in my other shoe." Needless to say it broke up the class.—Trainee R. Edward Gosnell.



The Bulls Sound Off!

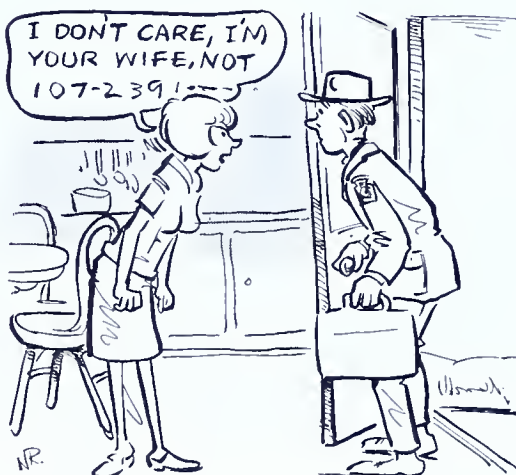
ELK COUNTY — On Friday, September 11, while on patrol in Benetzette Township, I had the opportunity of hearing four bull elk bugling. They were answering each other from four different vantage points on Winslow Hill. Two of these apparently were young bulls and sounded like they needed considerably more practice. However, the other two were really sounding off. I have spent quite a lot of time watching elk on different occasions but this is the first time that I have heard a challenge of this type. — District Game Protector H. D. Harshbarger, Kersey.

One Way to Learn

CLARION COUNTY — Dr. Kodrich of Clarion State College said his dog was working on a rabbit when it came upon a 6-point buck bedded down. The dog, being only 10 months old, wanted to play with the deer, but Mr. Buck threw him 15 feet into the air. The dog realized he meant business and headed for his master, only to find himself flying through the air again, aided by Mr. Buck's fine antlers. Needless to say, he remained at the "heel" position the remainder of the afternoon. — District Game Protector A. N. Pedder, Clarion.

The Word

YORK COUNTY — When we speak of hunter safety many people think it is just for the youngsters. The reports I receive from my instructors indicate that parents who sit in on the classes never fail to learn something too. So don't send your child to a hunter safety course—*take him!* — District Game Protector R. L. Yeakel, Red Lion.



Attention, Mr. 216-00-4567

WAYNE COUNTY — Remember when your name was Jones? I would have liked to attend your 221 (sportsmen meeting) but I was tied up on an 05-502 (beaver damage investigation) and an 05-503 (law enforcement investigation). This necessitated filing an OA-191 report coded with the numbers 64000-11-23-91-70-2-12-04-107-50100-335-00; also a PGC 19 form and form PSAB-5 (Rev-7-60). I look forward to meeting you sometime within the next ten years of remaining service, providing I can fathom these codes, which will probably change weekly, and someone releases me from this printing piano. Computationally yours, 206-14-3700, District Game Protector F. G. Weigelt, Galilee.

Time to Fight

HUNTINGDON COUNTY—Is Man finally realizing that it is nearly too late for him? Let us do our part to keep the “conservation ball” rolling. At every opportunity we must encourage pollution fighters throughout the country to fight and not back down from the “big money organizations,” to stand up for what belongs to each and every American. Keeping America beautiful is everyone’s job. Strength is in unity—let us be united in this most necessary struggle. — District Game Protector E. N. Galloway, Alexandria.



So That's Why They Go!

CLEARFIELD COUNTY — Checking an archery hunter the other day, I asked if he had been lucky enough to get a shot at a deer. His answer—“Nope, haven’t had one shot, but I did see 41 deer, a bear, several turkeys, a raccoon, and many other small mammals and species of birds. Just a darn nice time to be in the woods. And not only that, but if I should get a deer now, what would I do when buck season rolls around? Who wants to hang around camp and play chef while all the other guys are out having a ball!” — District Game Protector G. J. Ziedler, Rockton.

Must've Been Hungry

ELK COUNTY — While on patrol the night before archery season, Deputy Eberl and I noticed a light along the road by an apple tree. We investigated and found four hunters under the apple tree, but no guns or bows were visible—only a rope. Still thinking about illegal deer, we were surprised to see the rope jump around. When the end of the rope came into sight we were shocked to see, not a deer, but a live porcupine, with the rope around its neck. When asked what they intended to do with it, one man stated matter-of-factly, “Eat it.” When last seen they had put it into the back of their station wagon alive, crawled into the car and left for camp. The next day these hunters were not seen. Do you suppose maybe Mr. Porky got mad in the car?—Land Manager R. J. Rea, Wilcox.

Publicity Might Work

ERIE COUNTY—A hunter bagged a deer during the past season and failed to submit the required big game kill report card. I contacted him and collected the penalty as required by law. I also explained the importance of the report for proper deer management. He said he would post the field receipt in his hunting camp to influence his companions to submit reports when they got deer. Sounds like a good idea for others.—District Game Protector E. Simpson, Union City.

Did She Wear Magnifying Spectacles?

CAMBRIA COUNTY — The Richland Township police called and said that a lady reported an animal back of her davenport. Upon arriving at the house, the lady said the animal was the size of a muskrat. It turned out to be a chipmunk. It was removed by setting a box trap.—District Game Protector L. D. Mostoller, Johnstown.



CONSERVATION NEWS



PGC Photo by Fred Servey

ARTHUR GODFREY, WELL-KNOWN ENTERTAINER who is vitally interested in our environmental problems, receives the Game Commission's Senior Conservation Award from Commissioner James Thompson during the South Park Fair in Allegheny County, as Tom Forester, DGP Dick Belding and CIA Don Madl watch.

Who Needs Pa. Gunpowder Permit?

The thousands of sportsmen in Pennsylvania who load ammunition will not need a permit to purchase gunpowder, according to information received by the Game Commission.

Numerous inquiries have been received in Game Commission offices concerning new Pennsylvania Department of Labor and Industry regulations governing the storage, handling and use of explosives. It was originally understood that buyers and sellers of gunpowder needed a permit.

However, the Game Commission has been advised by the Labor and Industry Department that those who purchase gunpowder in small quantities for their personal use in handloading do not need a permit.

The Labor and Industry Department said its revised regulations are aimed at firms, associations and corporations engaged in the manufacture, storage, handling, use or sale of explosives in large quantities of 100 pounds or more which create a potential danger.

Under the new regulations, it is necessary for all dealers who store, sell or handle smokeless powder in quantities of 100 pounds or more to obtain a permit from the Labor and Industry Department.

Hunting License Sales Show Another Increase

Pennsylvania, which sells far more hunting licenses than any other state in the nation, again showed an increase in the number of sportsmen afield during the license year ending August 31, 1970. Hunting license sales for the 1969-70 year totaled 1,151,807, an increase of 33,235 over the preceding year. However, the jump noted a year ago was 57,574, so the rate of gain may be slowing down.

Resident license sales for the year just ended were 1,049,627, the all-time high and 21,059 more than were issued during the preceding 12 months. This is only the second time that resident license sales have topped one million.

Nonresidents purchased a record 102,180 licenses, but the increase in nonresidents was about one-third smaller than the rise recorded a year ago.

Included in the resident license sales figure were 149,564 junior licenses sold to youths 16 years of age and under. One year earlier, 155,838 junior licenses were sold, the all-time record for this category.

Also included in the resident figure were 1,136 free licenses issued to disabled war veterans and 17,973 free licenses issued to full-time servicemen on active duty. The nonresident total includes 205 licenses issued to alien hunters.

Leading counties in the sale of resident hunting licenses for the past year were Allegheny, 75,479; Westmoreland, 43,931; Lancaster, 39,753; York, 33,914; and Montgomery, 31,177.

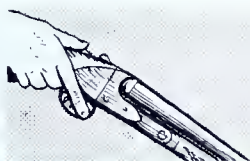
Pennsylvania's 1968-69 sale of hunting licenses led the nation in every category. In the past, the Keystone State has been responsible for up to one-fourth of the national increase in the number of hunters. It is to be expected that the state will continue to maintain its number one ranking as a result of the 1969-70 license sales.



DESS E. SEBNUR of East Butler with his 175-lb. black bear, taken the last day of the 1969 season, and his 7-point buck collected early on opening day. All in all, it was quite an eventful weekend for Dess!

MRS. MIMI SOMP, Ottsville, with her 11-point 160-lb. buck taken in 1969—her fifth deer in six years, including three bucks and two does. Mrs. Somp does her hunting with a 30-06 Mauser built by her husband.





HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator

"Don't Shoot!"

By Susan M. Pajak

IF THERE isn't one supreme rule about hunting, perhaps there should be. Offered for consideration is this: "... shoot for the game animal or bird only when you, the hunter, see with your eyes, conclude in your mind, and sense with your whole being that it will be a safe shot. ..."

Is that a building just beyond those pines? *Don't shoot!* What is that spot of color? *Don't shoot!* Could that be a

Some time ago an article entitled "What Do You See?" was printed here. It developed from the Firearm and Hunter Safety Study at Pennsylvania State University. Mistaken-for-game hunting accidents were scrutinized to determine just what the offender did see or believes in his own mind he saw when he shot a human being in mistake for game. Make no mistake about it, all of us have been persuaded to shoot by what we thought we saw or by the urging of a companion. You know the situation—"That deer has horns, it's a legal buck—shoot!" At the same time, with closer observation, you fail to see horns.

That's what safety is all about—the ability to take the second look. As Susan Pajak, who has written other hunter safety stories, describes some of the anxiety and persuasion in "Don't Shoot," every hunter, experienced and inexperienced, should be reminded to identify the target and take the second look—J.B.



PGC Photo by DGP R. C. Feaster
YOUNGSTERS WHO are properly trained, as this group being instructed by Clarence Aston and Rubin Reed, know when not to shoot.

deer tail flicking half hidden by that big tree? *Don't shoot!*

Ah! There's that groundhog!! Or is it? *Don't shoot!*

Well-worn safety precautions being reiterated to some, to be sure. But what do you do if in those few seconds



DGP DICK FEASTER presents Hunter Safety commendation to **Joe Hearn, Jim Monroe and Bernie Miller** of the Mercury Gun Club, Chester, for the club's work in this field.

after *possibly* spotting the trophy you, the novice, should be encouraged by your hunting partner to shoot when conditions to you, the guy or gal with gun-in-hand, do not seem quite right?

The aforementioned scene undoubtedly occurs every year to some youngster, a beginner, the little woman, or even the guest camp buddy.

What happens is that these first-timers, possibly, truly believe that they should obey to the first and last letter everything their "instructor" tells them to do. The youngster feels obedience to his dad, the beginner to a friend, the female to the male, and the guest camp buddy to the camp owner.

To come back to camp without the quarry, or without even taking a shot at it, would bring ridicule, so these

novices finalize in their minds. They then become mentally entangled with the emotions of fear, blind obedience, and safety precautions.

They actually fear the supposed ridicule, silently swear to obey, and then throw the safety precautions to the four winds!

With their firearm they take to the woods. Soon the "instructor" spots the quarry. (Note: the hunting partner saw the quarry—not the hunter.)

"Shoot!" he bellows into tender ears. "Shoot! Shoot!"

The novice is so unnerved that he undoubtedly reacts and obeys blindly, aims in the general direction, and fires, agitated in those few seconds into committing an unsafe act by some nonthinking person who can't seem to just nudge the novice gently on the arm or elbow.

Did the novice actually see his intended target? Of course not!

After the Smoke Clears

Only after the smoke clears does the novice then realize that he could have fatally wounded someone. The beginner is now horrified and ashamed, and it really wasn't all his fault. But who will believe him now? After all, he's the one who fired the shot. . . .

Summing up, if ever you inherit the sad misfortune of acquiring a mouthy, over-anxious, self-acclaimed hunting partner and he insists on badgering you as to when to shoot—and at what —*ignore him*.

If he continually berates you afterward because you refused to shoot just because he said so, simply return to the car or camp and don't ever hunt with him again.

His days afield could be numbered, but yours don't have to be, not for all the hunting seasons to come.

Double Duty

The roots of a tree serve two purposes: they absorb food elements through the tiny root hairs and also provide anchorage.

Big as Life

By J. David Truby and J. S. Torries

IT HAD BEEN a long, cramped wait, but seeing the big buck coming into range made it worthwhile. The hunter moved quietly and slowly, not wanting to ruin his shot. He was behind some low shrubs, looking down on a flat meadow. The unsuspecting buck was working closer and closer.

Sucking in his breath, the hunter aimed, steadied, and squeezed off a shot. Beautiful! The buck hadn't moved, so he took several more shots.

The "shots" were with a camera, of course, and not with a rifle. Our hunter had discovered wild game photography, an activity that extends the thrill of the hunt all year. When you hunt with a camera, there are no closed seasons, no bag limits, and no protected species. It's just you and your camera against the creatures of the wild in their home environment.

All it takes to get top-notch animal pictures is practice, ingenuity, patience, planning, and a thorough knowledge of wildlife. Happily, these are also the essentials a good hunter needs. So, you are ahead of the game!

The basic photographic equipment you'll need includes a camera, one telephoto lens, and a tripod. To save yourself time, money, and frustration, consult a friend who knows photo equipment, or get the advice of your local camera shop owner. Buying a useful camera from the myriad models on the market is even tougher than buying a new deer rifle. The best rule of thumb is to ask for help. In any event, getting set up this way won't flatten your wallet, and you can use your camera for taking pictures of other things too.

Most good photographers prefer 35mm cameras, especially the single-lens reflex models. They are small, light, have extremely good lenses for



DETAILS SUCH AS focusing, lens setting, distance, etc., should be taken care of before the action starts, if at all possible.

the price, the film is cheaper than larger sizes, they're convenient, and you can interchange lenses quickly and easily. We highly recommend any of a number of medium-priced SLR cameras for animal photography—and for most any other type of still photography. The SLR is probably the most versatile camera being sold today.

The telephoto lens is essential to animal photography because it brings the subject "closer" to you, and provides that close-up, big-as-life effect. The tripod is important because it provides a firm, steady support for your camera. This keeps your shots from blurring. Try to avoid taking animal pictures with a hand-held camera, because even an experienced photographer often gets excited when the moment of success is near at hand, and ends up with a fuzzy shot of the one that got away. If this sounds like "buck fever," that's because it is. This

dread disease hits the man who hunts with a camera just as hard as it does the chap with the gun.

Now that we've reviewed the basic equipment you'll need, let's get out into the field for some picture taking.

Stalking animals openly in daylight is virtually a waste of time. As any hunter knows, most game has keen senses of smell, eyesight, and hearing. Getting close enough for a satisfactory picture, even with a telephoto lens, is tough, although not impossible. Generally, it is easier to work from a blind or some type of hiding place.

However, let's say you want to try to sneak up and photograph one of the inhabitants of Penn's Woods. A slow, steady approach is best. Try to stay upwind, with the sun at your back, and be as much a part of the landscape as possible. Avoid sudden, sweeping, or lateral motion. Before starting in, decide exactly where you're going and judge how far that is from the animal you want to photograph. Set your camera for that range. It's the same as in hunting with a rifle, only you want to get lots closer, say to within 50 yards or less, depending on the type of animal, surroundings, etc. Remember to use natural cover when you move, just as you would when sneaking up on a groundhog.

But, let's say that you are in camera range. Now what? If you have done a good stalking job, the animal will be unconcerned and in a natural state. If

this is what you want, go ahead and snap away. If, on the other hand, you want striking poses, a sharp whistle will put your subject on the alert, with head held high. Work fast though, as an alerted animal isn't likely to stay still very long.

Details in Advance

By now you can see why we suggested setting your camera before you are in shooting position. Take care of as many technical details in advance as possible; you never have as much time as you want when you start taking pictures. Sometimes you get only one quick shot, and you must be ready for split-second action. This is another reason we favor the 35mm single-lens reflex, especially the ones with some of the "automated" features like built-in light meters that give you good exposures automatically, plus other conveniences that let you concentrate on taking good pictures.

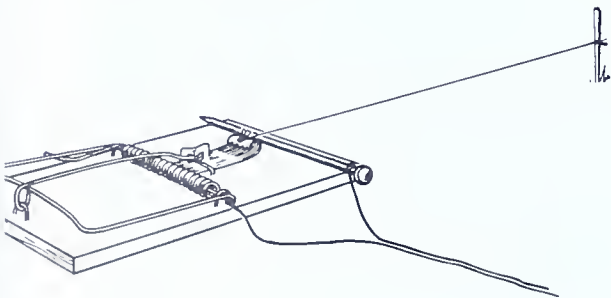
Night photography is much the same as daytime, except that you must be even more careful where and how you walk, and you need a light source to illuminate the animal. However, check lighting regulations with local authorities to avoid possible embarrassment.

Lighting may be accomplished with a powerful flash gun using large bulbs, or with a portable "strobe" or electronic flash unit. This does away with the need for bulbs, and provides powerful, instant light. Once more, do as much of the basic adjusting as possible beforehand.

So much for stalking. Suppose you take our advice about using a blind or using some other type of cover. An important facet here is to know the animals and their territory. You will want to find game trails, feeding areas, or water areas . . . places where game will gather.

Once you have the animals located, there are three ways of getting pictures: a blind; remote control; or a self-tripper.

MOUSETRAP DEVICE provides a dependable arrangement for getting wildlife to photograph themselves. It's easy to build and set up.



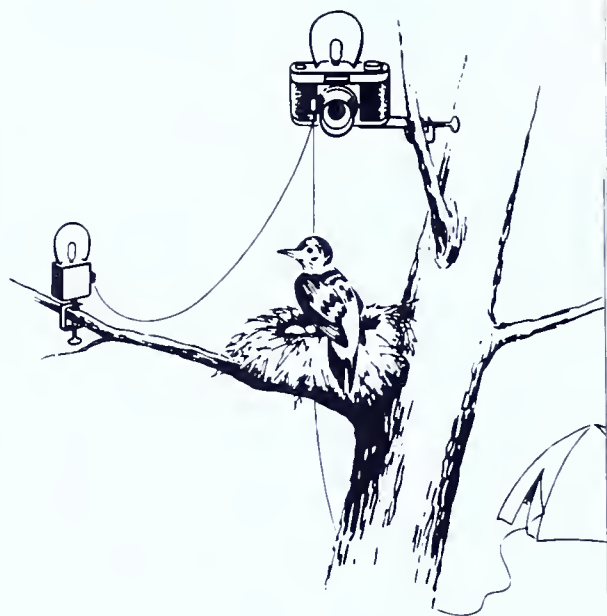
In using a blind, you'll need a tripod so your camera will be set up and ready for any opportunity. In the meantime, you can relax until your subject appears. Once more, tend to all the technical details like focus, shutter/lens settings, etc., as much in advance as possible. Remember to check periodically for changing light conditions. Once you are taking pictures, move slowly and quietly. Re-check your technical settings and picture composition occasionally, if you have the opportunity. In any event, always assume that each picture you take will be your last chance at photographing that animal, and work for perfection.

Remote Control

Remote control photography is used when you can't get close enough in a blind, or if you must use flash lighting. It is satisfactory, however, only when you are sure of the exact area the animal will pause. Likely places are dens, nests, and feeding areas. The picture is taken by using a shutter-tripping device on your camera. The device is operated by you some distance away. The advantage is obvious, in that the camera is close to the animal and you're not.

There is a wide choice of various remote control devices, including air, hydraulic, and electrically operated models, and you can work up to 500 feet away from the camera. Your "best friend for advice" would be helpful if you decide to investigate remote control photography.

The self-tripping device works like a trap, only the animal takes its own picture instead of being caught. A tripping device can easily be rigged by anyone with average mechanical ability, and the equipment needed can be bought for a few dollars at a hardware store. This system offers totally candid pictures of wildlife, and you need not be present for the action. Unhappily, it yields only one shot per setting, and your equipment is pretty



USING THIS RELATIVELY simple setup permits the photographer to take closeups of birds and animals while he is far away. Patience is required.

much at the mercy of the elements or a dishonest person. In general, this method is suggested for work near your home or farm—very near. However, many unusual pictures of shy animals have been gained by having them take their own pictures by this method.

Thus far, we've covered the basics of equipment and general techniques for photographing animals. Several other considerations also should be mentioned. It is important to regard all animals with respect. Some species are temperamental and unpredictable. For example, never get between a mother bear and her cubs, and never corner any animal just to get a picture. Always leave lots of exit room for both you and the animal. That's the best way to avoid trouble.

Another basic rule to remember is that no picture, no matter how striking or perfect, is worth any harm you might do to any animal or its natural home. The best advice here is to always let your *sportsman's good sense*

be the judge in photography, as well as in hunting.

In summary, then, with care, practice, patience, imagination, intelligence, and compassion you can photograph any animal in the world. There is a sportsman's challenge in seeking pictures of wildlife in its natural habitat. Animals in the wild are alert, people-shy, fast-moving, and hard to get—with a camera or a gun. Matching wits with them on this basis gives nature photography unsurpassed attraction and enjoyment. You don't have to be a professional to get good results or have an engineering degree to work the equipment. Today's cameras are automated enough that almost all you do is snap the picture. Animal photography is easier for you because you're a hunter. Start enjoying this adventuresome sport. Grab a camera and go shooting.

SUGGESTED READING

For readers interested in more details on animal photography or on the basics of photography, we suggest the following books. In addition, Eastman Kodak offers many excellent publications and pamphlets on basic photography, as well as techniques for nature photography. Most camera shops have a good selection of these publications.

Bauer, Erwin. *Outdoor Photography*. New York: Harper & Brothers, 1965.

Bennett, Edna. *Nature Photography*, 3rd ed. Philadelphia: Chilton Books, 1967.

Cruikshank, Alan. *Hunting With the Camera*. New York: Harper and Brothers, 1957.

Dunton, Robert. *A Guide to the Photography of Animals*. New York: Greenberg Press, 1956.

Kanameishi, Betty. *How to Take Better Photographs*. Chicago: Popular Mechanics Press, 1954.



GOVERNOR RAYMOND P. SHAFER, an ardent outdoorsman, proudly displays his 1970 hunting license, number 1A, as Game Commission President Robert Fasnacht and Executive Director Glenn L. Bowers look on.

WILD GAME IS ROYAL FARE

By Les Rountree

THE ANNUAL Pennsylvania deer crop has been averaging over 100,000 for a long time. If we use a minimum figure of 50 pounds of meat from each animal that's five million pounds of venison that should be enjoyed every year! If we lump in the pheasants, rabbits, squirrels, grouse and ducks (not to mention doves, woodcock, wild turkey and geese) we'd probably come up with two or three million more pounds of exquisite eating. The hunter, and particularly the camper-hunter, who doesn't make the most of the other half of the trip, is missing out on some of the greatest culinary experiences of his life.

At the risk of sounding un-American I must insert that we could all learn something from the European approach to game animals. They have long considered that wild fish and game was a harvestable commodity and was most certainly not to be wasted. With their large human populations and pocket-sized forests, they have historically been forced to utilize what nature provided to the fullest extent. A large number of Americans are not quite so economical of late. It's a pity, too, since wild game has a flavor and texture that in my opinion ranks well up on the taste bud tally sheet. Without any exceptions, I strongly believe that to not make use of game animals that are killed is a criminal act. If you don't want to eat what you shoot, give it to someone who does.



THE FIRST STEP toward a wild game dinner can be bagging a deer—and the next step is pulling that hide off as soon as possible.

Whether you're camping or hunting out of your home, the first thing you must do to make the game ready for the table is field-dress it properly. If a prime white-faced steer received the same treatment that most deer suffer I'm afraid it wouldn't taste too good either. Get the entrails out quickly and avoid cutting into the paunch or intestines. There are a number of good books available on the subject . . . but even without a book or past experience to guide you, the job is really quite easy. Just make sure the knife is sharp and take your time.

Many hunters do not skin their deer promptly, but I think that's a mistake. First of all, it is so much easier to remove the skin while some body heat is still in the carcass. It's just like skinning a rabbit, only on a slightly big-



ONE GOOD WAY OF preparing venison and other game meat is in a hole in the ground after a fire has burned there for some time.

ger seal. Remove the head with the hide still attached and you're all set in case you want to mount the head later and also for proof of legality. Carry a roll of inexpensive cheese cloth with you and wrap the quarters loosely. Hung in a tree, the quarters will cool out nicely. If freezing weather sets in you will be in much better shape for packing the car than you would be if you had a board-stiff carcass to bend into the trunk or tie onto one of our modern fenderless cars. (Most late model sedans are not made with the deer hunter in mind.)

For the camper an opening day buck is a special thrill for the ego and the stomach. This is mostly because of the liver and the heart. Don't throw either one away! This is campfare supreme, and it takes such a little bit of extra bother. As soon as you get back to camp, put both in a pail of cold

water and throw in a handful of salt. Let cool for four hours (or overnight if you must), changing the water and adding more salt at least once.

Slice both heart and liver about a quarter-inch thick and roll in a mixture of flour, pepper, garlic powder and celery salt. Fry quickly in melted margarine and drain on several layers of paper toweling. If you enjoy any kind of liver you'll love it. If you don't like beef liver you may find yourself liking it anyway. The taste is liver, for sure, but it differs from beef or pork liver in that the taste is more positive. The heart is much more delicate than beef heart and very tender if not overcooked. Seven minutes on a side is usually all that's necessary. A few sliced onions tossed in are good if you like fried onions . . . and I do.

Another great thing to do with a venison heart is to pickle it. Boil the heart for about two hours in lightly salted water. You should be able to easily pierce it with a fork. Slice thin and place in a covered crock and cover with a half-and-half mixture of vine-



WHILE WAITING FOR VENISON for a June barbecue, it always pays to have such things as steamed clams and chicken for the hungry ones—such as Ned Smith.

gar and cold water. Season with slices of onion, salt and freshly ground pepper. Put the crock in the refrigerator or let sit outside for 12 hours. Eat the pickled heart with rye bread and hot mustard. Anyone who doesn't like that is past all understanding.

Venison Suggestions

Venison to my taste should be allowed to hang for at least 10 days and two weeks is even better. Ideal temperature for this aging process is just above freezing. There is a point however when very fresh venison tastes very good. The trick is to cook it before all the body heat completely vanishes. If you wait beyond this time the meat sets up and requires some aging before it becomes tender again. For the camper who wants to enjoy some fresh venison before packing, here's a way that I stumbled on to that I think deserves special mention. I guess the best description would be instant smoking.

A year ago while visiting a fellow outdoor cook I was shown a device that the Garcia Corporation marketed some time ago called the Abu Smoker. It was originally designed as an eight-minute fresh fish smoker and for that purpose it's great. It burns denatured alcohol and works like a pressure cooker. A small amount of smoky-smelling sawdust is poured into the bottom of the pan and meat to be



ANOTHER METHOD of preparing thin-sliced loin is smoking—perfectly feasible with equipment readily available these days, or you can make your own if desired.



SOMETIMES, WHEN YOU'RE young and pretty hungry, this hole-in-the-ground stuff seems to take a long time—and maybe is a dubious approach to the cooking problem anyway!

smoked is laid on the wire rack. The top of the pan slides shut, sealing the cooking container in an almost airtight fashion. A small tin of alcohol is ignited and allowed to burn completely. Each tinful burns about eight minutes. One tinful will completely cook and smoke fish perfectly. Half-inch strips or small fillets of venison require 16 minutes or two tins. The flavor is out of this world. If you enjoy smoked meat of any kind you'll love venison fixed this way . . . and if you don't like smoked meat, you may be converted.

I mention this smoker because I don't know of another product like it on the market. (If there is, I'm sure some reader will tell me about it.) If your dealer can't get one, write to Impecco Ltd., 310 Cedar Lane, Teaneck, N. J. 07666. Any camper would enjoy one as a Christmas gift. They can be used for instant (or almost instant) meals of all types. I've smoked fish, hot dogs, pork chops, dove breasts, chicken livers and mushrooms in mine,

and I'm going to try some other things just as soon as I get the chance.

Speaking of smoking, if you want to make some good venison jerky the electric smoking outfits sold by Little Chief and Outers are very useful. Any odd cuts that you don't want to grind up for deerburger can be cut into narrow strips and turned into jerky. Good recipes are included with the smokers and you don't need years of experience to learn how to do it. In addition to venison, many small game birds and animals are most delicious when smoked. Ned Smith, old friend of many GAME NEWS readers, tells me that smoked squirrels are his favorite. I haven't tried them yet, but you can bet I will.

After you return home and decide to cut up your deer, do it with care. If you doubt your own ability to do a good job, have a butcher do the hon-

ors. He's got the necessary equipment and the few dollars he'll charge for cutting will be well worth it. He'll cut it up any way you ask, but in case you don't have a preference you might want to try my formula.

Cut Saddle Into Chops

Have all of the saddle cut into chops about $\frac{3}{4}$ " thick. These are too good to roast or fry. They should be broiled and given the same treatment as would be lavished on a tender lamb chop. Scar quickly on each side for about four minutes and serve hot with mint or currant jelly. Venison chops are my absolute favorite meat.

Have one complete ham cut into round steaks for quick-frying or Dutch steak style, and leave the other one whole for a jumbo roast when you invite your non-hunting friends over. Wrap the roast in aluminum foil after covering with raw onion slices and sprinkling with salt, pepper and basil. Oh yes, include a couple of bay leaves for an extra flavor-enhancing touch and a tablespoon of butter. Roast it no longer than you would a prime beef roast and don't open up the foil until you've got it on the table. The aroma is half the pleasure.

Make two shoulder roasts from the front quarters and treat them as you would a beef pot roast, cooked with mixed vegetables cut up rather coarsely. An alternate suggestion is to cut up the shoulder meat as stewing chunks (about an inch and half square) and use as the base for the world famous Rountree Stew as described in the October, 1968, issue. (Ed. note: Rountree has no humility!)

The rest of the meat—shanks, ribs and neck—is made into burger to be mixed with ground fresh pork, preferably on the fatty side. My favorite mixture is three parts venison to one part pork. The ground meat is perfect for chili, meatballs of all sorts, and a hundred different kinds of casserole dishes. The burgers are outstanding by themselves too. The big secret with venison is not to overcook. For some



WHEN THE VENISON finally does arrive, crisp outside and just perfect inside, everything else is forgotten until the treat is fully enjoyed by all.

strange reason there is a mysterious feeling that wild game should be cooked twice as long as other meat. Because of its wild existence it is a bit more muscular than most domestic meat. But cooking it for an extended period robs it of the great flavor that is naturally there.

Gamely Cook It!

Nothing is more frightening to a young bride than to have her hunter husband come charging through the tent fly or back door with a hair-, feather- or scale-covered bundle and announce that this will be dinner . . . tonight! A few mature brides are appalled by the thought as well. She may gamely cook it (no pun intended!) but her heart just won't be in it. She has already decided that it will not taste good simply because it doesn't look as nice as the neatly wrapped super market stuff that comes all trussed up in cellophane.

Clean your game before you present it to her. Pick off all hair or feathers and cut away the bloodshot portions. Make it look presentable. If your wife wasn't raised in a rural or hunting family atmosphere, she'll have no more idea about what to do with a rabbit with the shuck still on than she would with a whole pig. But you know she can fry a pork chop and she'll do a good job with fricasseed rabbit if you



NO KING EVER ATE better than the woods-hungry man who sits down to a table laden with meat supplied by his own gun.

give her the ingredients in an orderly condition.

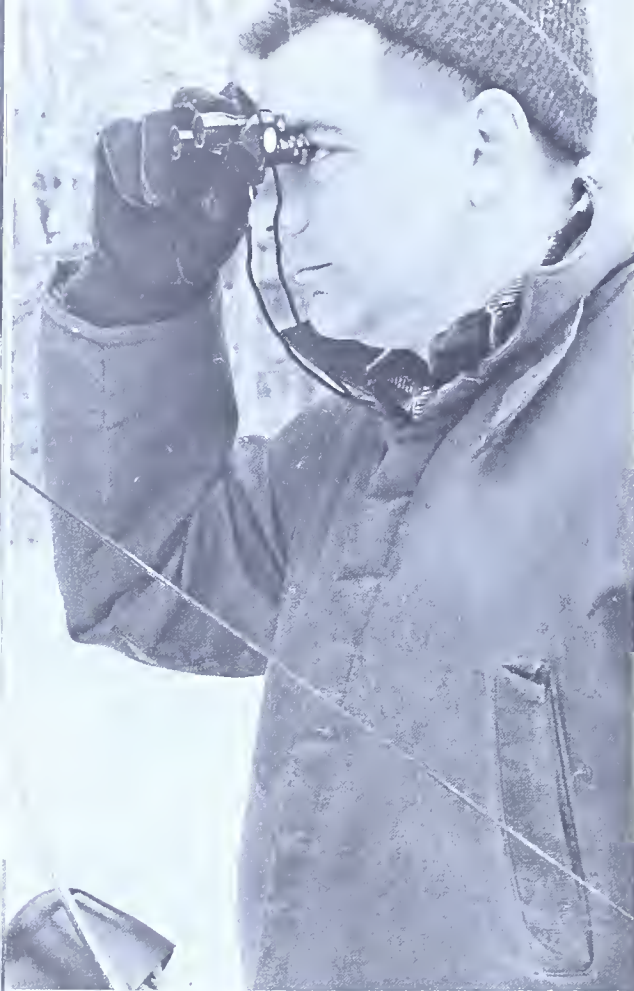
For a thousand years wild game was zealously guarded as the food of royalty. The medieval kings regarded the fruit of the forest as too good for the commoners, and to kill one of the king's deer without his blessing was considered a crime of the highest magnitude. Many people, in fact, lost their heads over it. Wild game is still royal fare, fit for a king or a camper.

Lycoming Officer Top Pistol Shot

Lycoming County District Game Protector Lawrence A. Kuznar of Muncy is the 1970 Pennsylvania Game Commission pistol shooting champion. Kuznar fired a 283 out of a possible 300 on the 25-yard bullseye course to edge last year's state champ, Butler County District Game Protector W. Ned Weston of Boyers, who fired a 281. Finishing third in the competition, which is fired both right- and left-handed, was Montgomery County District Game Protector Harry T. Nolf of Telford, whose score was 277.

Finger Substitute?

The teeth of a snake are pointed backward to prevent the escape of animals it captures for food.



SWIFT 7 x 18 POINTER binoculars are a big help for archers despite diminutive size, as Bob Laubach found out during last year's deer season.

PROBABLY one of the least understood items of outdoor equipment is the binocular. In fact, most people don't even say it right. The word itself refers to two visual assists. The prefix *bi* means two, and in this case pertains to the two optical instruments which are joined to make a pair. It is just as correct to say a *pair* of binoculars, as it is to say a *pair* of pants, however confusing this might be. There are two separate instruments, either of which can be used separately as well as in conjunction.

What does all this have to do with the archer? Well, binoculars can play an important part for the bow hunter. They do have an application in target shooting. But, since such shooters normally prefer a single, mounted optic,

A Look at . . .

Extra Eyes for Archers

By Keith C. Schuyler

Photos From the Author

such as a high-power telescope, we are going to confine the information here to the use of optics in the field for the bow hunter. Although it is not unusual to see a binocular used on a target range, the spotting scopes normally used by target archers are seldom interchangeable for hunting. Nevertheless, there are small telescopes and monoculars adaptable to hunting with the bow.

There are two important considerations in choosing a binocular for bow hunting. The first is the same as for any use—quality. We'll get into that later. The second has a more immediate application for the bow hunter because of his special need—size. To sum it up quickly, the bow hunter should seek a small pair of optics of good quality which will fit the type of hunting he plans.

But, before getting into the selection of a binocular, let's take a look at this special need. At first glance it would

appear that the use of magnifying glasses as a part of bow hunting tackle is somewhat redundant. If you go along with what has been printed previously here over the years about hunting big game with a bow and arrow, you must agree that the hunter has both a practical and a moral responsibility to get as close to the quarry as possible to increase the odds for a good hit. Then, why bother with a binocular?

There are a number of good reasons for it. This is not to say that extra eyes for the bow hunter are a necessity, but they do have many uses. Most likely to utilize the binocular is the more discriminating archer-hunter or the trophy seeker. There are two times, when possible, that he will put glasses to good use.

The first use comes before the season, when a binocular can be of considerable help in observing the habits of deer. These animals follow a fairly standard pattern of travel before the season opens. With a binocular, they can be observed at a distance without disturbing them. This also gives the hunter an opportunity to decide on a particular animal that he wants to make his try for on the opener. Of course, such scouting permits the use of any type of optics regardless of size or shape, but it is well to become accustomed to the one that you plan to use in the season.

There are numerous times when a good binocular can be of use during the actual hunt. Again, it provides an opportunity to get a look at any approaching deer to decide if it, or one of the herd, is the animal for which the hunter wants to make his try. The trophy hunter has an opportunity to count points, to determine the size of the antlers, or to discover if this is the buck he spotted before the opener.

Although it is true that heavy foliage of early season somewhat restricts the use of a binocular, there are times when having one along can be of considerable help. For instance, when hunting with companions, the hunter

may simply want to glass an individual in the distance to determine if he is one of his party or a stranger. He can avoid a long walk and the possibility of stumbling in on somebody who would prefer not to have his deer stand disturbed.

Aside from the practical considerations, there is additional pleasure in glassing other birds and animals during the sometimes interminable wait for desired quarry to appear. There is a hazard in such activity, of course, since the nature lover may spook an approaching deer through careless movements. Nevertheless, a good binocular can provide a much more intimate view of all wildlife when the proper occasion arises.

When planning a stalk for a particular animal, it is a good idea to glass the area well before planning your approach. There is always a possibility of additional deer being hidden in the area. Nothing is more frustrating than to make a long stalk of an hour or more only to have an unseen deer detect your presence and push the alarm button.

Also, it provides an opportunity to study the terrain to determine which will be your best approach. There is always the movement of air to take



BUSHNELL 7 x 26 CUSTOM COMPACT is another convenient-size binocular when weight—or lack of it—is highly important.

into consideration, but studying the topography and the foliage can increase the odds for success.

In small game hunting, magnifying optics have their most practical use in stalking woodchucks. It is frequently possible to glass an entire area carefully to pick out animals which might be missed by the naked eye. Often a hunter will concentrate so hard on one target in an attempt to get into position that he frightens several easier shots away in the process. As with big game hunting, the chance to study the terrain and foliage can be a definite plus value.

Helpful at Bow Ranges

To a lesser degree, a visual aid can be of help in locating other small game. The squirrels that flatten themselves against a tree trunk or a limb are often exposed to magnification when they might easily be skipped over with normal vision. Any unusual change in color or foliage can be investigated at long distance without the hunting hazard of moving in to confirm your suspicions. Although by their very nature artificial eyes are designed to operate at relatively long distances, they can be of considerable help in permitting the hunter to move in to practical shooting ranges with his bow and arrow.

Even if there is no intention to try a shot because the game is illegal or in a position that is not approachable, it provides an opportunity to watch some creature go about its normal business undisturbed. On a recent trip, because I left my binocular in camp, I missed a splendid opportunity to observe a grouse drumming at firsthand. It was visible through a hole in the foliage, but I had to be content with a long-range view as the bird performed repeatedly. Later, I had to settle for a view of a bull moose that was feeding far down the lake from where our party was fishing. In neither case was the game in season, but a close-hand look at the species in action when they felt they were unobserved

would have been a visual trophy in itself.

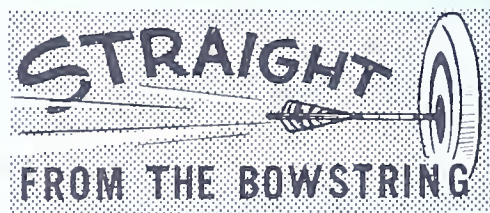
Assuming that we have found enough needs for a binocular, what do we look for in a proper pair for the bow hunter?

This brings us back to that other consideration—*quality*. This is determined somewhat by the amount of use or the type of use intended. There is also the important problem of just how much an individual is willing to spend on tackle that is not absolutely essential. Probably then, the most important consideration is to combine quality with size.

A practical binocular for the bow hunter must be one that he can easily slip in and out of a pocket. The gun hunter has no restrictions on size since the instrument will not interfere to any great degree with his freedom of movement in using his gun. However, the bow hunter cannot have a large binocular case where it can catch the bowstring or inhibit a comfortable draw. Unfortunately, I know of no binocular specifically designed for the archer, and cases for them leave something to be desired in the way of practicability. This is why it is important that the instrument be of such size that it can be easily brought to hand or disposed of quickly if necessary.

If you want a good, weatherproof case to fit your belt, it may be necessary to make one yourself or have one made to your specifications. This is preferred since there is a hazard to the glasses in such transport or in taking them in and out of the pocket no matter how much care is employed in the process.

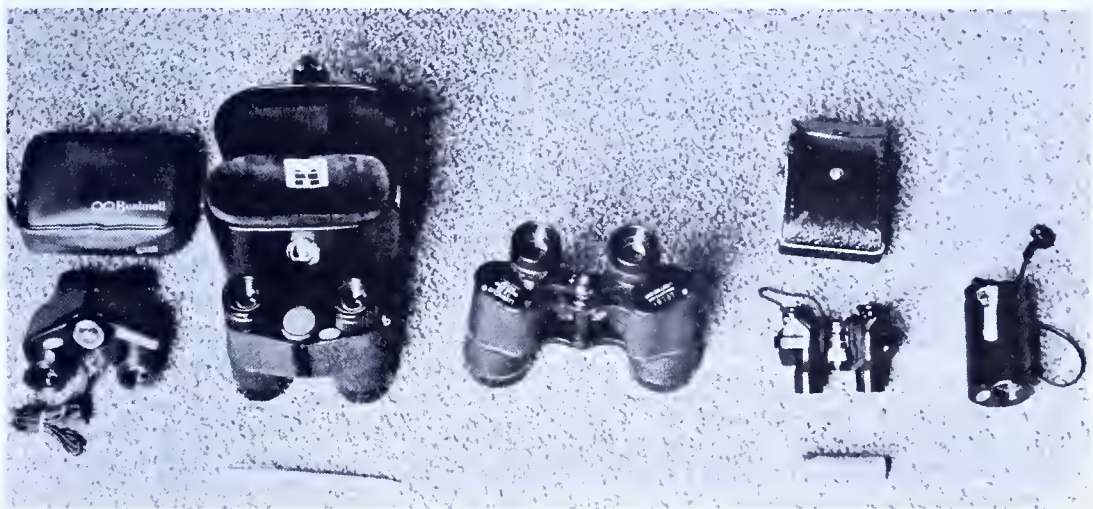
Although choice of an instrument may be dictated by financial considerations, when it comes to quality there



are a number of things to take into account. Foremost is the need to have a binocular with which you can *see*. Many will do a fine job once you can adjust your eyes to the small peep-holes at the rear, but the game can be long gone by the time this is accomplished with an improper pair. Hunters who wear eyeglasses have the

last several lifetimes with normal care.

Aside from power, an equal consideration is the size of the objective lens. This is the second figure given for the power in a binocular. For example, 6 x 30 means you have an instrument that will magnify the subject six times, and the front, or objective lens, is 30 millimeters in diameter. Its size is im-



RELATIVE SIZES OF BINOCULARS are shown by Bushnell Custom Compact, Swift Trilyte, Selsi 7 x 35, Swift Pointer and Swift Huntscope monocular.

additional consideration of a pair of optics which are easily usable without removing their regular pair of glasses.

How powerful? In choosing a small binocular, you will be somewhat restricted in power by the limitations imposed by size of the instrument. This is to the good. Trying to hold a powerful binocular in the hand is difficult even in the large glasses, which can give you up to 20 power, and zoom glasses that will take you to 12 times the image. Such glasses are unwieldy and have a relatively narrow field of vision. My personal choice for Pennsylvania is for something around 4X to 7X. Such binoculars can be purchased that weigh less than one-fifth and are less than one-half the height of a 10X binocular.

Quality is something else. Even in 6X, you can go anywhere from about \$25 to well over \$200 for a fog-free, moisture-proof, guaranteed beauty that will

portant, for it determines how much light enters the instrument. This, in relation to the magnification, in turn determines how much light is transmitted to the user's eye. In a practical sense it then determines under what light conditions the binocular is usable, for the more light transmitted, the more efficient the binocular is on gloomy days, in early morning or late afternoon, etc.

The size of the exit pupil—the small circle of light seen in each rear (ocular) lens when the binocular is held toward the light at arm's length—is determined by dividing the diameter of the objective lens in millimeters by the power. For example, the exit pupil of a 6 x 30 binocular is 5mm. Relative brightness—a mathematical expression of the binocular's ability to transmit light—is then found by squaring the diameter of the exit pupil. In a 6 x 30 binocular, it would be 25. By com-



TRILYTE MKII Swift is an intermediate size binocular, a type favored by some bow hunters. It weighs less than 19 oz., magnifies 7 times.

parison, a 7 x 50 binocular would have an exit pupil of just over 7mm and a relative brightness of 50. This is the reason large-objective binoculars are chosen when they will often be used under extremely bad light conditions, as in some military situations. However, from a practical standpoint they are rarely necessary for sportsmen for the simple reason that the pupil of the human eye hardly ever exceeds 5mm in diameter during hunting hours, and thus cannot utilize all the light which the instrument transmits. Any binocular which has an exit pupil of 5mm is entirely practical for all hunting.

Quality of lenses and the binocular's construction largely determine the unit's resolving power—the ability to define detail. Coating, an overlay of magnesium fluoride, helps here also, as it reduces glare and reflections.

Field of vision is important in trying to find your subject in a hurry. The lower magnifications give larger fields than the high powers in most cases. For example, on one 20 x 60 binocular, the field of vision at 1000 yards is only

180 feet across. The same company makes a 6 x 25 pair of glasses that provides a field of vision that is 420 feet at the same distance. Although the image of the animal would be considerably larger in the higher powered binocular, it would be much more difficult to find against the natural background. Furthermore, it would be considerably more difficult to keep it in the binocular's view.

An economical substitute for a binocular is a monocular, an instrument suitable for use by one eye. An example of this is shown in the composite photo of five optical instruments. This particular model is the Huntscope, a little 4 x 20 unit designed by Swift with a reticle that will permit estimating range. It has a clip which permits fastening to a pocket or it can be held by its lanyard in a pocket for easy accessibility.

Bausch and Lomb manufactures a small telescope known as the Balscope 10. It has a light but tough plastic tube and is made for rough usage. A tripod adapter can be obtained for alternate use on the target line.

Practical Pleasure

Choosing an optic for bow hunting adds new dimension to the sport with practical overtones and extra pleasure. To sum it up, you will do best to find an instrument which permits as much freedom as possible for the hands as well as the bow and arrow. At reasonable price, you can get either a binocular or a monocular which will do a passable job. However, you may want to invest in an optic which will serve you well and which can be passed on to future generations. Its quality will be largely determined by its price.

If it only serves once to help you down a particular animal you are after, it will become one of your more valued possessions. But the side pleasure of removing visual question marks from distant targets, or simply to see more of nature firsthand, makes it a good feeling to have an extra set of eyes in your pocket.



DON LEWIS TALKS GUNS WITH JOHN MARSMAN of Savage Arms Corp. during a recent visit to that Westfield, Mass., company.

Is There an All-Purpose Rifle?

By Don Lewis

Photos by Helen Lewis

"LOOK, FELLOWS, I've been chasin' whitetails in these parts for more than 60 years, and during most of that time, I've used my 94 Winchester in the 30-30. Fact is, I bought the ol' 30-30 right after it was introduced about 1900. You'll have to admit, all those years add up to quite a lot of experience," a silver-haired gentleman told a group of fellows gathered in the country store.

"Times have changed, Gramps," cut in a young fellow. "You're speaking of a day long past. Everything is more modern and streamlined. We don't hunt the way your gang hunted back then."

"You sure said a mouthful, youngster," the old fellow said with a grin. "We didn't have no fancy camps or four-wheel-drive vehicles to get us around. We lived and hunted right out in the open. Why, the first trip I ever made to the big woods, four of us

loaded our gear in a baggage car and rode as close as we could to where we were going to hunt. We had to hire a team to get us back into the woods. That country was desolate and bitter cold. We pitched a tent right in the snow and stayed for over a week. Nearly froze to death, but each of us brought home a buck."

"I'm not talking about the way you hunted or the conditions you put up with. I mean that today the hunter can't be satisfied with just one rifle to meet all his needs. Primarily, you fellows hunted just for bear and deer in the big game category, and perhaps the 30-30 and the 35 Remington with all those other old favorites satisfied your every desire. Today's big game hunter may hunt deer in Pennsylvania, antelope in Wyoming, and then head north to Alaska for grizzly. You aren't going to keep on arguing that one rifle will meet all those requirements?"



WAITING FOR A WHITETAIL to appear, Lewis has M77 Ruger 284 topped with Leupold scope ready—and it's been carefully sighted in.

The old fellow eyed his young opponent, and I had the feeling that he knew he was on the losing end of the argument, but the many years hadn't dulled his thinking or his enjoyment of a good conflict. He pointed a gnarled finger in the general direction of all of us and cut loose.

"You bet I wouldn't argue that you fellows could down all that game with just one rifle. I'll agree that today's hunter needs an arsenal. He puts more faith in his equipment than he does in himself. He wants everything done for him automatically."

The old man had turned the tide of the argument, and he knew it. A half a dozen defense attempts were made from the group, but the veteran hunter never batted an eye.

"The difference between hunters of my time and today's version is that we didn't need long-range rifles or bone-blastin' magnums. We used the skills of stalking and concealment we had learned from our fathers and long hours spent in the woods. It was a

matter of pride and personal achievement to outsmart our game, and we put our shots exactly where we knew from firsthand experience they would make the quickest kill. Why, I made nine straight kills with nine straight shots."

"My compliments, Gramps, but that doesn't prove too much."

"It proves that we knew how to hunt and shoot. We were hunters and woodsmen. We hit the trail early and stayed on watch until the last legal minute. I hit camp more than once two hours after dark. If you young fellows would hunt as we did, an array of guns and calibers wouldn't be necessary. I hang to my belief that one rifle is all any real hunter needs, and I don't see much sense in continually bringing out new calibers."

For a few seconds the air was heavy with silence. One young man got a soft drink from the cooler, and another looked straight ahead and puffed his pipe. It was plain to see that out of sheer respect for the aged hunter the debate wasn't going to continue. It was almost a welcomed relief when the old man left.

"There goes one of the finest hunters and outdoorsmen this countryside has ever produced," one of the young men stated breaking the long silence. "My dad told me that back on this old man's farm, there were over 40 nice racks plus a couple of bear skulls that the old man had downed with his 30-30."

"I still think I'm right regardless how the old man thought," replied the young fellow who had disagreed with the old man. "Anyways, I wouldn't want to just settle for one rifle no matter how much success I had had with it."



The bantering went on for over an hour. Some of the participants didn't want to go against the old veteran's advice; I noticed most of these were over 35. The backers of the new hunter were far from middle age. I couldn't help feeling that I was witnessing the end of one era and the beginning of a new one. I stayed out of the conflict; though I found myself wanting to agree with the old gentleman, my better judgment indicated the young man was right.

I suppose my inconclusiveness proved that I had not given much thought to whether one rifle is sufficient. Certainly any high-powered rifle will take deer, bear, or even the larger species, but that's not the point. I had begun hunting in the era the old man referred to; back before the elaborate camps and vehicles that will go any place any time, and this made the veteran hunter's side sound pretty good. But there are always two sides to an argument, and time does change most things. I also know it's a poor policy to close the mind and accept just one idea. I don't know whether the old man ever changed his, but I began to give some serious thought to the idea of more than one rifle for Pennsylvania hunting.

30-30 No All-Arounder

The old hunter was convinced the 30-30 cartridge had the power to kill, but I wouldn't pick the 30-30 as an all-around outfit. My problem has been trying to decide between the 270 and the 30-06. The '06 is more versatile, I feel, with a wide range of bullets to choose from. The 270 never excited me with any other weight bullet than the basic 130 grain. The old '06 is the forerunner of a lot of modern stuff and still offers the hunter more versatility than the rest. Still, the fact remains that no one cartridge can last indefinitely. The 308 has subtracted a good bit of prestige from the 30-06. Being a military design helped get its name in lights, but its shortness made it ideal for pumps and levers. Its case capacity



JOHN LINDSAY of JBL Arms, Dover, Pa., discusses engraving on imported Henri Dumoulin rifle with Lewis, who spent several days testing rifles with him recently.

is not equal to the 30-06, but its bullet selection doesn't vary much, and I know for a fact that its popularity is gaining every year. But I doubt very much if the 308 will hold the spotlight too long. There are cartridges in the wings that are star performers: the Magnums.

I'm sure the word puts a sour taste in a lot of mouths. This is unfair. Not all Magnums fall into the category of powerhouses that belch and roar and beat the shooter black and blue. A couple I'm thinking of happen to be the 7mm Remington and the 240 Weatherby. I used to feel that the 7mm Magnum was in the powerhouse class, but after shooting it extensively, I've changed my mind. I'm speaking from the recoil point of view. It could be that in time, we will adjust to the heavier recoil of most Magnums. There is no question concerning the impact power of the 7mm Magnum; it has plenty. A 150-grain slug from this big 7mm rips from the muzzle almost 300 fps faster than 150-grain from the '06 and carries nearly 600 foot pounds more striking power to the target. This

excess exceeds the total striking of the old 25-20 at the muzzle.

The 240 Weatherby Magnum cartridge is not nearly so well known, but I have a feeling it's not going to remain in the background much longer. I wasn't familiar with this cartridge, and when JBL Arms Company in Dover, Pa., asked me to test fire it in their Henry Dumoulin medium weight varmint model, I didn't muster too much enthusiasm. I knew that Dumoulin was a fine Belgium gunmaker, and when the rifle arrived, I wasn't disappointed in that respect. It was a beauty, but the caliber left me a little apprehensive.

Apprehension Wanes

My apprehension began to wane right after the first 5-shot group, and it kept on waning with each new group I fired. I found 53 grains of 4350 to be too hot behind the 75- and 80-grain bullets, even though the groups stayed about an inch at 100 yards. I reduced the load to 51½ grains of 4350 and had good results on chucks up to 300 yards, and the reduction has to help barrel life. My chronograph is on the blink, but the new Speer No. 8 loading manual shows that 53 grains of 4350 gives the 75-

grain HP bullet 3556 fps muzzle velocity and 2788 at 200 yards.

The regular 243 caliber uses only 47 grains of 4350 to get 3459 fps from the 75-grain HP at the muzzle. This doesn't give the Magnum much of an edge. However, things begin to change in the Magnum's favor when the bullet weight is increased. The 243 needs 42 grains of 4350 to obtain a muzzle velocity of 2964 with the 105-grain bullet. The larger case capacity of the 240 Weatherby accepts 47 grains of the same powder that constitutes a 200 fps velocity increase. At 300 yards the Magnum drops slightly over six inches.

I might have come close to heresy when I told John Lindsay of JBL Arms that Weatherby's 240 Magnum caliber could help fill the gap left by the fading 270. The Weatherby Company has one of its own 240 Magnums headed my way for testing, and I intend to run some comparison test between it and the 270. I'll pass on the results in a springtime column.

As much as I like the 30-06, 35 Remington, and the Winchester 270, I can't classify them as unbeatable. These newcomers just have too much to offer, and I think the trend will be more and more to the Magnum cases.

GUN COLUMNIST TRIES CUSTOM RIFLE built on Mauser action with Redfield variable power scope, decided it would make a fine long-range deer outfit.



For one thing, the hunter today needs speed and flat trajectory. His shots are being taken at ranges considered impossible by the ol' hunters. Right in our own state of Pennsylvania, the deer herd has moved out into the open, and 250-yard shots are not uncommon. The slim, small caliber bullets are designed for this type of shooting. With a 600 to 800 foot per second increase in muzzle velocity over the older calibers, the hunter doesn't have to have an artillery sight to score.

Velocity Gives Shock

I never thought in terms of sheer weight as the only factor contributing to quick, clean kills. It always seemed reasonable to me that a light, fast-moving bullet created more shock, and I do believe that shock is essential to the quick kill theory. My early years hunting chucks proved conclusively that the 22 Long Rifle bullet was not adequate for these tough little animals. At normal distances, the bullet would pass through them, but a body hit seldom resulted in a clean kill. The day I used my single shot Hornet to kill a chuck was the end of the 22 Long Rifle for chucks with me. Don't misunderstand me. The heavy slug is still needed. I certainly would suggest some weight in the slug when the targets are elk, moose, grizzly, etc. The heavier constructed bullet is needed on these large animals to get through the tough bone structure into the vital organs.

Every once in awhile the story gets out that this or that caliber is dead. I've read a number of times about the death of the 220 Swift varmint rifle. Not too long ago, I was told that the 270 Winchester had been touched with the finger of doom. I suppose the 30-06 has been declared unfit too many times to count. In time, these prophecies will come true. Not because any one of these rifles is lacking in power. Nothing that's said about them will make them any less effective.

Going back to the 220 Swift, it still pushes a 40-grain bullet over the 4000



AN OLD FAVORITE of woods hunters, the M71 Winchester lever action in 348 caliber, now is considered obsolete, though there's nothing better for reasonable ranges.

fps mark, and it's just as potent now as it was back in the '30s and '40s; yet today, it's dead. I don't want to sound dramatic, but it's the inexorable hand of time that does the trick—the simple matter of “the old must go to make room for the new.” Let's stop weeping over the heroes of the past and look forward with interest to the new arrivals. With all the modern technology and sophisticated machinery, the future for better rifles looks brighter than ever. There is everything to gain and little to lose.

The young man was right when he said times have changed. Today's hunter is versatile and mobile. The big game season is hardly over when the 308 put on the rack and the 22-250 comes off for some winter fox hunting. Early spring crows make dandy targets for the little Remington 5mm Magnum. This zipping 38-grain hollow point breaks loose from the muzzle at 2100 fps. Kinetic energy is over 370 foot pounds. At 100 yards, velocity is

still 1600 fps, and the tiny slug still retains a good punch of over 200 foot pounds. The chucks I've taken with this rifle convinced me it will handle crows up to 150 yards.

By the time the clover is cut, the varmint outfits are in full swing. Late summer and early fall are favorite times for westward jaunts for antelope and elk, and the long-range Magnums get the nod. The middle of October ushers in the early squirrel season, and the 22 rifle specialist has over two months to match his skills against the tree climbers. All this shows that hunting can be done year around; the young fellow was also right when he claimed one rifle couldn't handle it all.

I don't expect this article to settle all the arguments about which calibers are best and which ones should be retired. It could be helpful in establishing some guidelines about future calibers and which to choose. The aged hunter thought only in terms of deer. To him, rifle hunting meant a week or two in the big woods. From the middle of December until the next fall, the 30-30 was forgotten. Living conditions and work schedules have changed radically since the turn of the

century. Today hunting would be dead if these extra hunts weren't available. With more time for relaxation, the hunter can't be satisfied with just one faithful rifle, and that's a fact.

Right now would be a good time to think about an extra rifle. Maybe the Krag isn't all it was once thought to be. Another type of action or caliber could add a new dimension to your hunting. I've heard hunters admit that they used a particular rifle simply because it was in the family. Don't be afraid to get what you've always wanted. There's no hard rule saying the 270 or 30-06 is the only one. Tradition along these lines is as dead as the kerosene lamp. If you have been entertaining a desire for a change, buy it. My past is filled with nostalgic memories of yesteryear's rifles, but I can and do enjoy the benefits of the modern product without being disrespectful to their ancestors. You know here I am assuring you readers that some new rifles are going to take over when 50 years from now, some gun writer may take a disdainful look at the 308 and the 240 Weatherby Magnum; too bad I won't be around to see what he's putting in a good word for

Looking Backward . . .

"The history of the Inn at Paradise Valley P.O. is not without interest. This region was an unbroken wilderness prior to 1822, when four settlers came with their families, all German people. . . . They made clearings, opened some primitive roadways and built cabins to whose very doors deers, bears, and panthers would some times come. At times fires would be kept burning in front of their houses to keep the wild beasts and rattlesnakes away.

"The number of these settlers increased and soon the Inn that had been built became a resort of hunters from below, who came through the Gap in Spring and Fall to take deer and other wild game. Their method was peculiar. They kindled great fires enclosing a space of a hundred acres or more, leaving open a place of exit, near which they would stand under cover and shoot down the panic stricken herd."

"Stroudsburg Democrat," August 3, 1894. From an article relating to year 1822. "Pennsylvania Scrap Book," LIX, 8.

INDEX

ARCHERY

Why Shoot in Winter?—	
Keith C. Schuyler	JAN
A Choice—Keith C. Schuyler	FEB
First Edition—Keith C. Schuyler	FEB
Home on the Range—Keith C. Schuyler	MAR
Crossbow at the Crossroad—	
Keith C. Schuyler	APR
Target Tackle Topics—	
Keith C. Schuyler	MAY
The Nationals—Keith C. Schuyler	JUN
Fun in the Field—Keith C. Schuyler	AUG
Archery for Everyone—	
Keith C. Schuyler	SEP
Hunting With a Bow—	
Keith C. Schuyler	OCT
Bow Hunter—Keith C. Schuyler	NOV
My Hard-Won Trophy—	
Charles Gross	NOV
Extra Eyes for Archers—	
Keith C. Schuyler	DEC

CAMPING

Sec Pennsylvania First—Les Rountree ..	JAN
Why Not Stay Warm?—Les Rountree ..	FEB
Public or Private?—Les Rountree	MAR
Stay Dry—Les Rountree	APR
It Doesn't Have to Be Plain—	
Les Rountree	MAY
Be a Good Shopper—Les Rountree	JUN
Going Lightweight—Les Rountree	AUG
Camp Cooking Hardware—	
Les Rountree	SEP
Tie It Up or Lash It Down—	
Les Rountree	OCT
Is Winter Camping for You?—	
Les Rountree	NOV
Wild Game Is Royal Fare—	
Les Rountree	DEC

CONSERVATION EDUCATION

The Pymatuning Story—Nick Sisley	JAN
Shohola Waterfowl Management—	
Nick Sisley	MAR
Susquehanna River Waterfowl	
Program—Nick Sisley	MAY
A Northwestern Waterfowl Hotspot—	
Nick Sisley	OCT
Night Patrol—Edward K. Willhide	OCT

DOGS

A Sad, Sad Tail—Day C. Yeager	APR
Tribute to a Queen—	
James D. Hockenberry	MAY

FICTION

Go, Harvey Havermeyer, Go!—	
Day C. Yeager	AUG

GUNS AND FIREARMS SAFETY

The Luck of the '94—Ken Calnon	JAN
The Year Ahead—Don Lewis	JAN
The Problem Gun—Don Lewis	FEB
The Gun for Clays—Don Lewis	MAR
The Flintlock Pennsylvania Pistol—	
Jim Hayes	APR
Elementary Ballistics—Don Lewis	APR
Turkey Gun Dilemma—Don Lewis	MAY
Just a Rifle Between Friends—	
Don Lewis	JUN
Summertime Hunting—Don Lewis	AUG
Once Over Lightly—Don Lewis	SEP
The Great Cap 'n' Ball Caper—	
J. David Truby	OCT
22-Caliber Handguns—Don Lewis	OCT
The Unexpected—Don Lewis	NOV
Is There an All-Purpose Rifle?—	
Don Lewis	DEC

HISTORY

Ghost Town . . . and Hunter's Paradise—	
Ted Fenstermacher	FEB
The First 75 Years	JUL
Division of Administration—	
Daniel H. Fackler	JUL
Division of Research—	
Harvey A. Roberts	JUL
Division of Land Management—	
Samuel J. Kern	JUL
Office of the Comptroller—	
John M. Smith	JUL
Division of Law Enforcement—	
Paul L. Failor	JUL
Executive Directors	JUL
Division of Minerals—John B. Sedam	JUL
Division of Propagation—	
Ralph E. Britt	JUL
Division of Information and	
Education—Roy W. Trexler	JUL
Service of Commissioners	JUL

HUNTING

The Winter of 1935-36—W. W. Britton ..	JAN
Ghosts of the Greenswamps—	
Byron W. Dalrymple	JAN
Second Chance Trophy—	
James D. Hockenberry	JAN
A Look at American Hunting—	
John Madson	MAR
Bears in Days Gone By—	
Ivan R. Tomkins	MAR
Nothin' but Head Shots—H. A. O'Neil ..	APR
Groundhog Gunnin'—W.B. Anderson ..	MAY
Gobbler in the Fog—	
John Plowman, Jr.	MAY
Huntin' With Hubby—Mary H. Bair	JUN
See Yourself as Game Sees You—	
Byron W. Dalrymple	AUG

A Look at Luck—Albert G. Shimmel ..	AUG
Three Times Blessed—Bruce Brubaker ..	SEP
Second-Guessing Woodcock— Robert F. Cubbins	SEP
Wanted! Snipe Hunters— Byron W. Dalrymple	SEP
Bugles in the Night— James D. Hockenberry	SEP
Old Chisel-Tooth's Secret— James D. Hockenberry	OCT
Just Grouching Around— L. James Bashline	OCT
So This Day It Rained—R. B. Stanley ..	OCT
Hunting With Magic Sticks— Rev. Joseph Confer	OCT
The Littlest Hunter— Anna Jane Waddington	OCT
Happiness Is a Plucked Turkey— Terry L. McCormick	NOV
Pennsylvania's Dynamic Duo— Nick Sisley	NOV
Bear . . . A Big One!—Burnell Rhodes ..	NOV
Woodcock—L. James Bashline	NOV
The Tricky Trio—Bill Walsh	DEC
The Last Drive—Chet Frystak	DEC
A Little Meat in the Pot—Ron Jones ..	DEC
Wanted—a Bigger Buck—Jerry Dietz ..	DEC
The Ghost of Jim Gray Hollow— James Talerico	DEC
Granddad's First Buck—Jack Ryan	DEC
The Lonely Hunter— Richard R. Douglas	DEC

MISCELLANEOUS

Financial Report for the Fiscal Year— John M. Smith	JAN
Give Your Wife a Break— Robert F. Cubbins	FEB
To Walk a Crooked Path— Susan M. Pajak	AUG
Back Country Motoring—John B. Miller ..	AUG
On Tasting Your Game— Robert F. Cubbins	OCT
Big As Life . . . — J. David Truby and J. S. Torries	DEC

NATURAL HISTORY

Where Have All the Insects Gone?— Helen R. Russell	JAN
Pennsylvania Wolves— Wilbert N. Savage	FEB

Caves of Pennsylvania— George F. Jackson	FE
Fight! Fight!—Albert G. Shimmel	MA
A Path to Our Door—Kay Evans	MA
Prickly Prince of the Pinegroves— Thomas Fegely	MA
Masked Aerial Bandit— Robert H. Wright	MA
The Web—Albert G. Shimmel	AP
Hickory Run Boulder Field— Ken Calnon	AP
Spring Migration—Eugene R. Slatick ..	AP
Moles and Bats—Carsten Ahrens	AP
Native Wild Orchids—Ken Calnon	MA
Peat Mosses—Ken Calnon	JU
Don't Hurry—Others Will— Albert G. Shimmel	JU
The Extinction of a Species— M. Edith Rutzmoser and Donald S. Heintzelman	JU
Following Ancient Trails— Eugene R. Slatick	JU
Don't Pick Up a Hitchhiker— Arthur R. Jeffrey	JU
Pennyroyal Tea Time!—Ken Calnon	AU
Sugar Maple—Ken Calnon	OC
The Eastern White Pine—Ken Calnon ..	NO

OUTDOOR GEAR

Big Eyes for the Hunter— J. David Truby	MA
--	----

RECREATION

Alone on the Susquehannock— Dave Drakula	JU
---	----

RESEARCH

Save Your Pheasant Land— Fred E. Hartman	MA
The Pennsylvania Wild Turkey— Arnold H. Hayden and Gerald Wunz ..	MA
Annual Antlers—Keith C. Schuyler and Earl V. Wise, Jr.	AU
How to Hunt the Wild Turkey— Gerald A. Wunz and Arnold H. Hayden	SE
Pennsylvania's Five-Year Grouse Hunting—Steve Liscinsky	NO

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